# Industrial Development

THE NATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION

Herman W. Lay, president of H. W. Lay and Co. and his trademark, "Oscar." Mr. Lay discusses his firm's expansions which are part of a new "reverse trend" in industry. Story on page 58.

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AREA FEATURE
The dynamic Ohio River Valley—from Pittsburgh to Cairo .....Page 17

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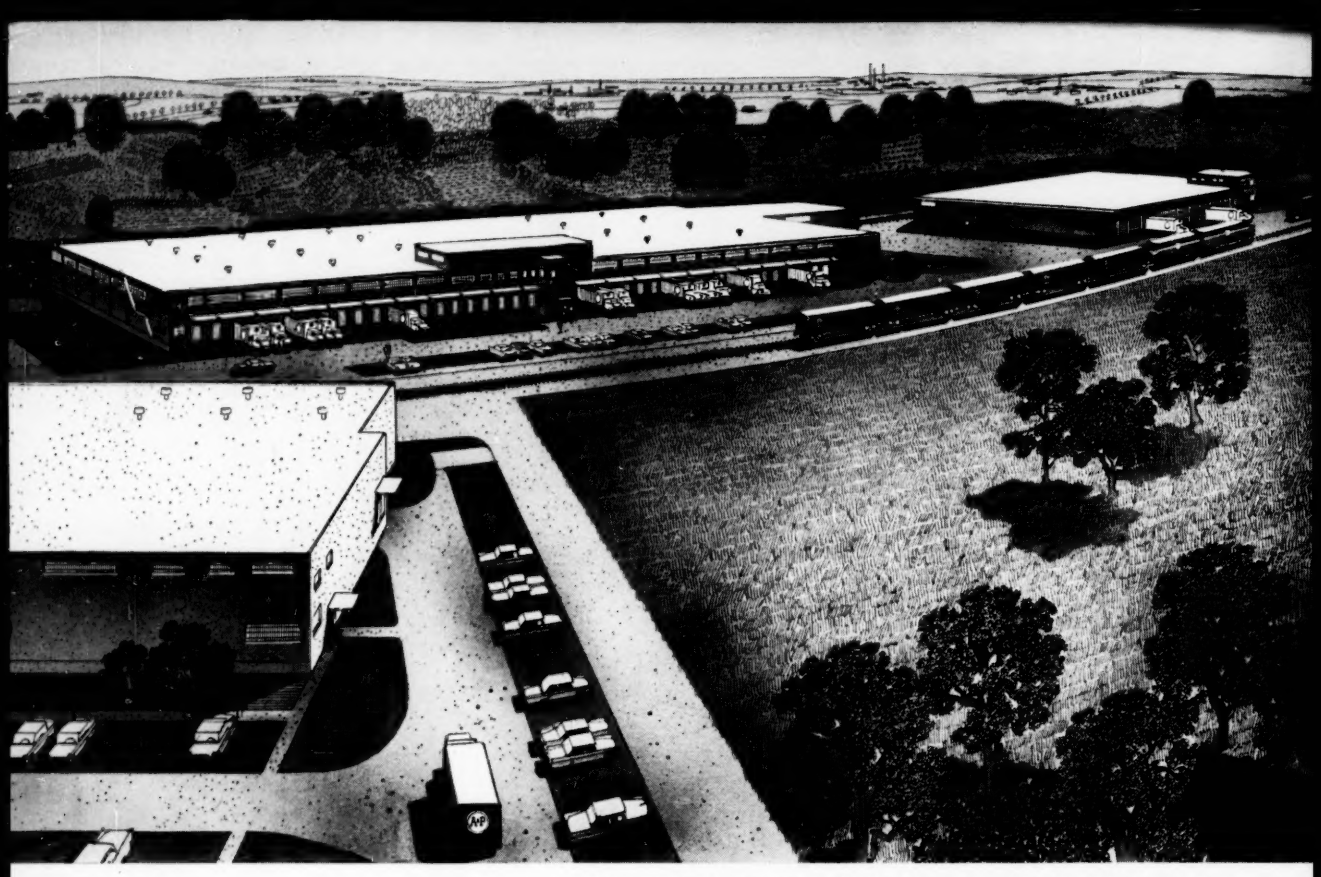

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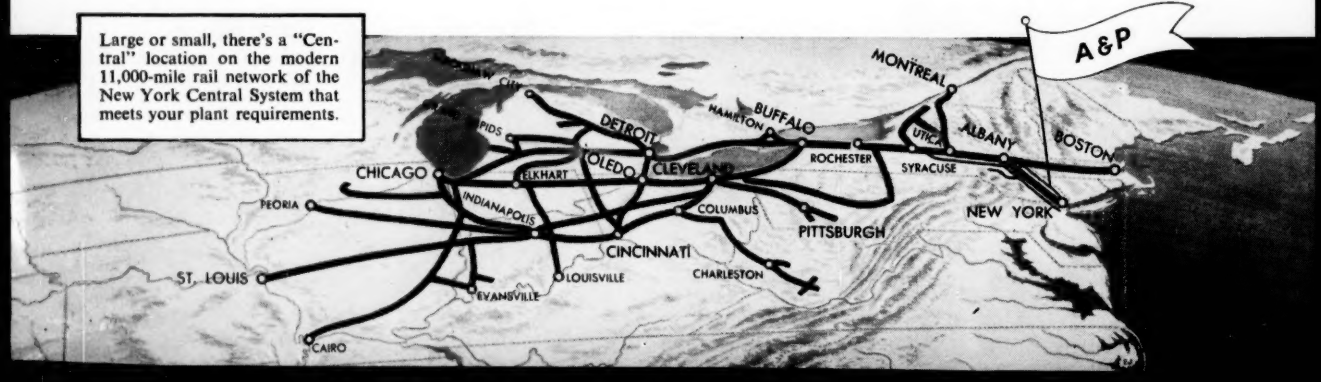

# INDUSTRIAL DEVELOPMENT

**and manufacturers record**

BPA

Volume 128 July 1959 Number 8

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# IN IDMR...

There's increasing concern about unethical and unprofessional practices in the development world. As the number of persons engaged in plant location and related activities increases, it is inevitable that the business attracts a few shady operators as well as a number of incompetents.

This concern was properly one of the subjects discussed in Pittsburgh recently by the Industrial Development Committee of the Society of Industrial Realtors. SIR is one of the key national groups seeking to promote professional status for those who serve industry in the site-seeking process.

**SIR Committee Chairman Charles Richardson, of St. Louis, asserted that there are a number of examples recently of "marginal, or even shady, deals which are bad both for industry and the community." Another spokesman cited one firm (definitely not a member of SIR) which has been violating all ethical standards.**

This firm poses as a plant location consulting organization and has advertised its services on a national basis. Investigation reveals, however, that the company actually holds a franchise to distribute prefabricated steel buildings in a regional market. Moreover, the same firm is offering consulting services to communities to aid them in attracting industry. Finally, the same company is engaged in real estate brokerage.

**Conceivably, this company could collect a location fee from the industrial client, another fee from the community, and make a commission on the sale of the building and the site! This is not double-dealing—it's quadruple stealing in our opinion.**

The ethical standards set up by almost all professional groups of consultants recognize that a firm can serve only one master—there can be no conflict of interest between clients. Obviously, an ethical firm cannot collect from four different parties on one transaction in which the interests of all parties are different.

In such a situation, somebody—perhaps everybody except the "consultant"—is going to be hurt. And the damage is not going to stop there. The injured parties are going to spread the word that there are no ethical standards in the profession of industrial development. A few questionable operators are going to hurt hundreds of capable, honest operators.

This is a tragedy because there are a great many professional developers on whom you can depend for honest, ethical performance. The American Industrial Development Council, which has a strict code to which all members must subscribe, now has a membership of more than 700 in the United States and Canada. Many developers indicate their interest and competence by holding membership in a variety of professional organizations.

**While the system is not fool-proof, we recommend that such membership be used as a quick device for selecting competent groups to assist in your next site study.**

To give these professionals greater identification—and to separate them from the thousands of part-time and/or amateur developers who seek to locate your new plant—we're going to introduce a new feature soon. Beginning in an early issue we will include a section for the professional cards of developers who hold membership in one or more of the following organizations:

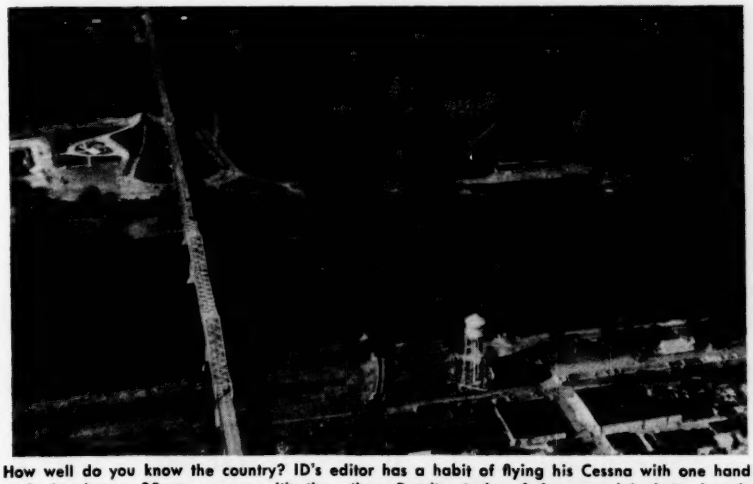
American Industrial Development Council (AIDC); American Institute of Planners (AIP); American Management Association (AMA); American Railway Development Association (ARDA); Association of State Planning and Development Officials (ASPDA); American Society of Planning Officials (ASPO); Edison Electric Institute (Area Dev. Comm.) (EEI); Great Lake States Industrial Development Council (GLSIDC); Northeastern Industrial Development Association (NIDA); National Industrial Zoning Committee (NIZC); Pacific Northwest Industrial Development Council (PNWIDC); Southern Industrial Development Association (SIDA); Society of Industrial Realtors (SIR); Urban Land Institute (ULI).

We urge you to watch for this new feature and give your support to the professionals who provide you with competent, ethical service.

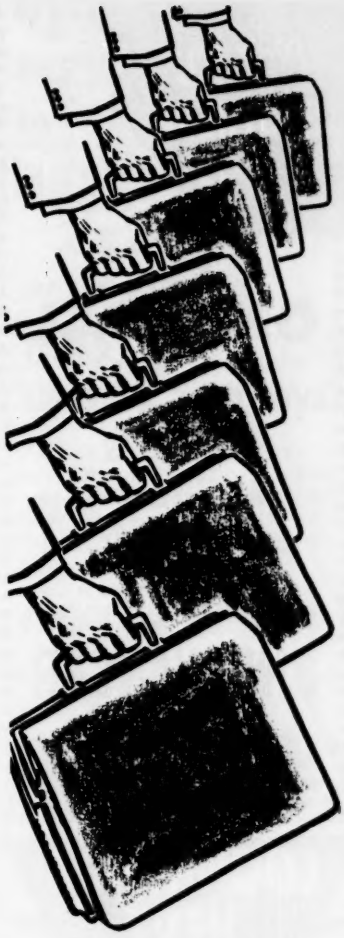
* * *

**Here and there**—There seems to be general disappointment with the new financing program of the Small Business Administration. Not many Small Business Investment Companies have gotten off the ground and their accomplishments are not impressive. Overall, it appears at this stage that the program will have a negligible effect on industrial development nationwide. . . . A work-course on Plant Layout and Facilities Planning will be held September 14-18 in Kansas City under auspices of University of Kansas . . . the industrial park exhibit shown by the U. S. at the Brussels World's Fair has been placed in the lobby of the U. S. Department of Commerce Building in Washington. This is a joint project of Socony Mobil Oil, Society of Industrial Realtors, and Office of Area Development . . . congratulations to Virginia Governor Lindsey Almond on his highly successful economic development session in Richmond. Attendance was more than 700, making this the largest such meeting yet held in South and one of biggest ever held in nation . . . Shame! One of the country's large pharmaceutical firms is putting pressure on a local zoning board to reduce standards in area where firm wants to locate plant. This is definitely contrary to national trend toward higher standards for industrial development. . . . Promotional delegations from several states are currently touring key industrial centers and, as usual, there are outcries from local politicos about "stealing our industry." Our observation is that the local politicians who get most worked up about competition are the very same ones who do little or nothing to promote a good business climate and thus encourage industry to expand in their areas.

—H. M. C.



How well do you know the country? ID's editor has a habit of flying his Cessna with one hand and shooting a 35mm camera with the other. Result: stacks of fuzzy aerial shots, largely unidentified. There's a free subscription for the first reader to pinpoint the scene above.



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**SIRS**: Last Fall we came across an article in INDUSTRIAL DEVELOPMENT magazine entitled, Accessibility: It's Easy to Ship In and Out of the State.

Since we are making preparations for our annual issue on transportation of textiles and products going into the manufacture of textiles, to be published early in August, we should like to use the above article with credits . . .

**WELTHEA B. THODAY**
**American Textile Reporter**
Boston, Massachusetts

► Permission granted.

**SIRS**: On page 23 of your March issue there is a photo of a Puerto Rican apparel plant.

Since this photo shows the use of our Feedrail trolley busway electrification system, we would like to have a copy print for our files and for possible use in our promotions.

Can you supply us with a copy print or tell us the source of the photo?

**A. M. SEIDLER**
Advertising Manager
Feedrail Corporation
New York, New York

► Information supplied.

### Community Audit

**SIRS**: We read with great interest, advanced announcements of your "registered community audit." This audit will, without doubt, represent a great step forward in the area of rational industrial location . . .

If the audit forms are available, we would most sincerely appreciate receiving a copy.

Congratulations on the excellence of your very fine magazine.

**R. J. WELSH**, Economist
Dade Dounty Development Dept.
Miami, Florida

► Copies sent.

**SIRS**: I was certainly impressed with the April 1959 issue of INDUSTRIAL DEVELOPMENT, particularly the article titled "The Registered Community Audit."

That we may acquaint the communities in this territory with the advantages of such an audit, shall appreciate your sending me a dozen of the forms with accompanying instruction sheets.

The possibilities of the Community Audit are practically unlimited. Congratulations to the staff of INDUSTRIAL DEVELOPMENT for coming up with such a comprehensive and practical service.

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## LETTERS

**SIRS:** Thank you for listing the officers and Board of Directors for the 1959-60 term of office in the American Industrial Development Council. This list, which appears on page 41 of the May issue of INDUSTRIAL DEVELOPMENT should be corrected however to show that the Directors for District 9 (Pacific) are **Stewart Neel** of the Puget Sound Power and Light Company and **Julius Jensen** of the Oregon Department of Planning and Development.

The Director from Canada, **Murray Elder,** is Industrial Commissioner of the Greater Ontario Industrial Commission, Windsor, Ontario.

**J. HUBER DENN,** Secretary
American Industrial Development Council
Newark, Delaware

### The Blue Book

**SIRS:** May I take this opportunity to congratulate you and the editorial staff of INDUSTRIAL DEVELOPMENT and MANUFACTURERS RECORD for your excellent May issue. The 1959 edition of the BLUE BOOK OF SOUTHERN PROGRESS is truly a valuable guide and reference publication . . .

**LEON M. HUFF**
Executive Director
Longview Industrial Districts, Inc.
Longview, Texas

**SIRS:** I appreciate very much receiving a copy of the 1959 edition of THE BLUE BOOK OF SOUTHERN PROGRESS, which I have enjoyed going over as it contains a wealth of very valuable information . . .

**H. M. THOMPSON**
Executive Vice President
Hampton Roads Maritime Association
Norfolk, Virginia

**SIRS:** My comment on your BLUE BOOK is "excellent". It will be a valuable source for UPI . . .

**R. T. ESKEW**
United Press Associations
Southern Division Manager
Atlanta, Georgia

**SIRS:** Congratulations to you on the 1959 edition of the BLUE BOOK OF SOUTHERN PROGRESS. The economic data will be very helpful in my work in city planning and land economics.

I would appreciate information on the source of the data, particularly the data for 1958. Can you advise me as to the references.

**ERLING HELLAND**
125 West Third Street
Tulsa, Oklahoma

► Referred to the May 1958 edition of the BLUE BOOK, page 15, for explanation of the sources.

**SIRS:** Congratulations upon the appearance of the most impressive issue of THE BLUE BOOK OF SOUTHERN PROGRESS to date. The South Reports to the Nation is the most arresting article I have seen on the growth of this section. Scores of leaders in the political, industrial and scientific life of the South have expressed their faith in challenging words . . .

**DR. JOHN R. SAMPEY**
Furman University
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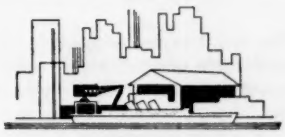

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# SCIENCE

The author (second from right) works out a plant location problem according to techniques described in article. Mr. Johnson, previous to his association with Western Electric, served as a statistician with the New York Telephone Company and the A.T. & T. With an impressive record of service in private industry and as a consultant to the government, Mr. Johnson has also co-authored a book, "Guide to Elementary Statistical Formulas."

The construction of a plant involves considerable sums of money which are invested for many years. Optimum location, then, becomes an important factor. I know of no way to avoid all future risks in a dynamic economy, but the best available information needs to be corralled for management decision-making.

Let me define what I conceive of as the scientific approach. Basically, this is the same approach as the physical scientist uses to solve his problems. It consists of seven steps:

1. Identifying the problem.
2. Analyzing the elements of the problem.
3. Evaluating the available information.
4. Identifying the areas where no data exists.
5. Appraising the relative importance of known and unknown factors.
6. Building (where possible) a mathematical or other type model to simulate the problem.
7. Testing the model.

Certain mathematical tools have been developed that aid in getting better decisions. In many instances, the new data-processing tools, such as the high-speed computers, combined with mathematics, mean that more precise answers can be achieved. I want to discuss one such area.

*Chart 1* lists some of the factors that management must consider prior to making the final decision in the selection of the site for a new plant. As you can see, many of these items, although of great importance, cannot be evaluated directly in dollars and cents. Others require only simple arithmetic. However, transportation costs of both incoming raw material and of final shipped product do lend themselves for ready evaluation through the technique of linear programming, one of the newer Operations Research tools.

This paper will be concerned primarily with plant location problems where management is thinking of supplementing production from existing plants. However, the approach is useful where a new company is locating its first plant. These problems may be considered as being divided into two general types. First, those where management has several alternative sites in mind and would like to find the location which minimizes total transportation costs. Second, those where management has no predilections, and may have only a general geographic area in mind. Of course, throughout all of this, management should have a third alternative in mind, and that is adding capacity at the existing manufacturing location.

*Chart 2* reflects the general character of the problem involving fixed alternatives. The lines emanating from the two existing locations show how the final product is being distributed prior to the establishment of the third location. The boxes on the chart show three alternative cities that are in management's mind. It becomes obvious that a new location will upset, to some extent, the original product distribution. That is why we have question marks with regard to the distribution of product from the new sites.

*Chart 3* shows all of the transportation cost variables that are interacting in this problem. We have used in this case the lowest water, rail or highway costs, since any form of transportation is suitable. Where no costs are shown

**One of the most significant trends in the solution of plant location problems is increasing emphasis on the scientific approach. A specialist in one of America's largest firms discusses his ideas on the subject in this article based on a talk presented recently before the American Management Association in New York.**

# and site selection

**By Robert E. Johnson**

*Economist and Actuary*
*Western Electric Company*

for the proposed plants, it was deemed economically unfeasible for the location to service the destination involved. On the extreme right we can see the requirements of each destination in tons of material. On the bottom the capacities of the existing and new plant locations are shown. In solving the problem, combined costs of transportation of the two existing plants, along with each of the new locations, are computed separately by linear programming techniques.

*Chart 4* shows the results of these computations. You will note here that the alternative of increasing capacity at the existing locations was considered. Interestingly enough, the combined shipping costs including proposed Site P-3 showed a substantial decrease from the possibility of increased capacity for the two-location set-up. Also the impact of raw material transportation costs was evaluated and here we note a marked increase in costs associated with Site P-2, hence swinging the project in favor of Site P-3. Thus, if management had not had the benefit of this analysis, a penalty of more than $250,000 per year in transportation costs could have been incurred. Actually, we have made similar studies in which variations up to one million dollars per year in transportation were found to exist between alternative choices for new plant sites. In one case, the transportation savings were equal to nearly double the depreciation charges.

The general problem where no specific sites are chosen by management and some general area such as the East Coast is suggested, is far more complicated. *Chart 5* illustrates this type of problem. Here we see three existing plants and the areas to be served by them under a four-plant set-up (with the fourth plant somewhere on the East Coast). The unshaded section of the chart represents the potential area available for the new plant location. In order to solve this problem, the assumption was made that freight rates vary directly with distance. Such is necessarily the case. The requirements in tons of product for each destination in-

**SOME FACTORS INVOLVED IN SELECTION OF A PLANT LOCATION**

I Site
- (A) Availability
- (B) Suitability
- (C) Zoning Regulations
- (D) Utilities (Electric, Gas, Water)

II Transportation
- (A) Availability
- (B) Costs

III Area Labor Situation
- (A) Availability and Skills
- (B) Salary and Wage Levels
- (C) Union Activity

IV Community
- (A) Services
- (B) Housing
- (C) Type of Community

V Raw Material Supply

VI Market Locations

VII Construction Costs

VIII Taxes

IX Location of Competitor Plants

X Proximity of Headquarters and Other Locations Within the Same Company.

Chart I—Many factors affect a new plant location. Some, of course, cannot be evaluated directly in dollars and cents. Transportation costs of incoming raw maerials and outgoing products lend themselves well to these techniques. (For a more detailed breakdown of location factors, see INDUSTRIAL DEVELOPMENT'S annual SITE SELECTION HANDBOOK edition.)

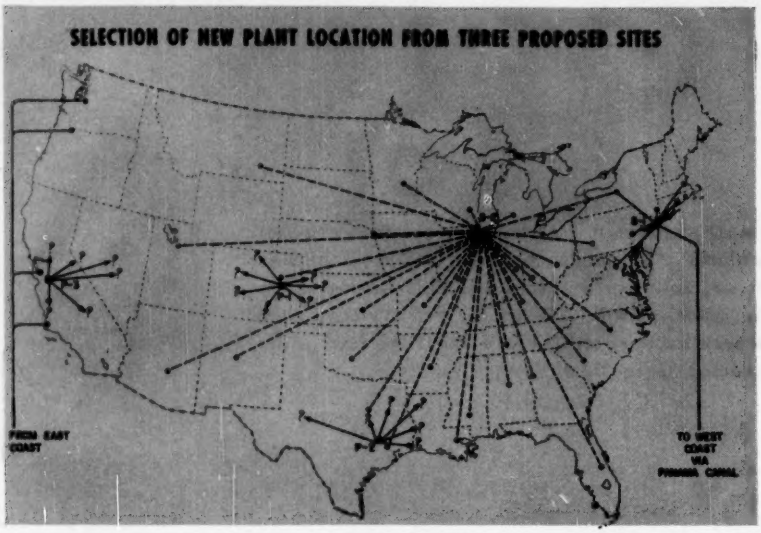


Chart 2—The lines emanating from the two existing locations (S-1 and S-2) are product distribution prior to additional establishments. Question marks indicate uncertainty of distribution when new locations are considered with existing plants.

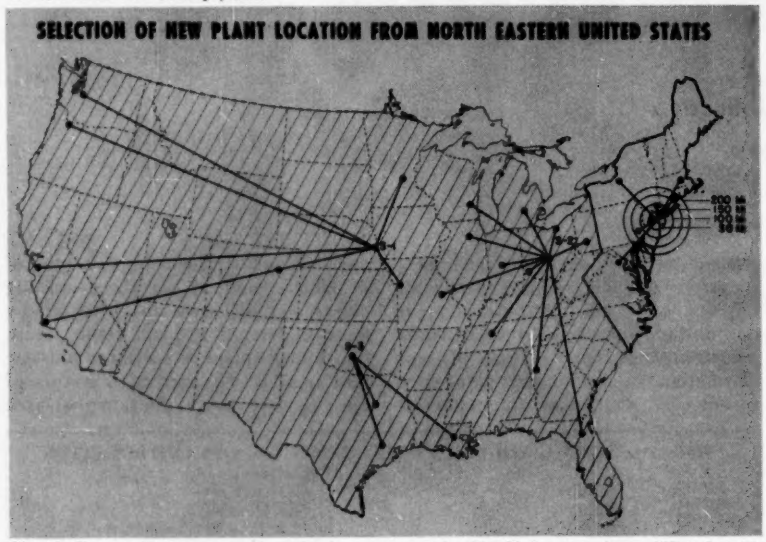


Chart 5—The map illustrates a problem wherein management has identified a general area ("East Coast") for a new unit but has not specified an exact location. Three existing units are indicated "S-1," "S-2," and "S-3."

**PER CENT INCREASE IN SHIPPING COSTS INCURRED BY MOVES FROM OPTIMUM LOCATION For 10,000 Tons From Plant E**

| Distance From Optimum Location | South | East | West | North |
|---|---|---|---|---|
| 50 Miles | 18.1% | 29.6% | 31.1% | 42.0% |
| 100 Miles | 52.7 | 77.5 | 68.8 | 87.8 |
| 150 Miles | 94.5 | 131.9 | 114.5 | 141.8 |
| 200 Miles | 141.9 | 187.2 | 166.3 | 195.0 |

**FOR COMBINED SHIPMENTS OF 33,300 TONS FROM ALL PLANTS**

| | South | East | West | North |
|---|---|---|---|---|
| 50 Miles | 1.8% | 2.9% | 3.1% | 4.1% |
| 100 Miles | 5.2 | 7.6 | 6.8 | 8.6 |
| 150 Miles | 9.3 | 13.0 | 13.9 | 13.9 |
| 200 Miles | 13.9 | 18.4 | 16.3 | 19.2 |

Chart 6—Above are different transportation costs computed on the basis of variations from the optimum location. This is so that management can determine the transportation factor in relation to other factors in the location analysis.

volved are important factors in determining a weighted central point. In effect, we are seeking the center of gravity in terms of ton-miles. The large encircled dot represents this central point for the problem involved. It was recognized by our group that the central point, although it was the most economical from a transportation point of view, might not be acceptable to management from other aspects of the total plant location problem as listed on Chart 1. As a result, bands at 50-mile intervals were developed and the relative change in costs evaluated. This enabled management, if it so desired, to move from the ideal location from the transportation cost angle in any direction and know the penalty incurred by the change (shown in *Chart 6*). It is of interest to note that the ton-mileage concept was checked out with actual freight rates for several alternative locations and the increase in freight measured. In these cases the results were almost identical.

## Product Mix Computation

Throughout this paper, I have confined myself to transportation problems associated with linear programming. *Chart 7* shows other applications of linear programming that are somewhat related to plant location problems. After you determine the location of the plant, it is possible through linear programming techniques to determine the optimum product mix for the plants. One such problem that we worked on represented a choice of establishing facilities to make 100 per cent of Product A, or 100 per cent of Product B, or some mixture of both.

Our analysis indicated that transportation savings in the order of $400,000 per year could be realized by a plant making 50 per cent of Product A and 50 per cent of Product B. This would necessitate an added investment of about $3,000,000. But if we assume the cost of money to be 5 per cent and the life of the investment to be 20 years, we would incur added costs in the neighborhood of $225,000 a year, or a net saving of about $175,000 a year. Other applications of these techniques involve personnel assignment, optimal purchasing policy, machine scheduling, materials handling, and inventory control.

**SELECTION OF NEW PLANT LOCATION FROM THREE PROPOSED SITES**
**Freight Rates*—Factory to Destination**
**(Dollars Per Ton)**

| | *Existing Plants* | | *Proposed Sites for New Plant* | | | *Total Requirements* |
|---|---|---|---|---|---|---|
| | *S-1* | *S-2* | *P-1* | *P-2* | *P-3* | *(Tons)* |
| D-1 | 9.60T | 25.53 | | | | 6,465 |
| D-2 | 6.00T | 25.30 | | | | 3,885 |
| D-3 | 3.40T | 25.30 | | | | 2,849 |
| D-4 | 4.20T | 25.30 | | | | 5,439 |
| D-5 | 14.80T | 21.60 | | | | 5,827 |
| D-6 | 5.80T | 25.30 | | | | 7,770 |
| D-7 | 7.40T | 24.38 | | | | 5,309 |
| D-8 | 16.40T | 18.20T | | | | 2,461 |
| D-9 | 11.20T | 23.60T | | | | 11,007 |
| D-10 | 25.00T | 10.80T | | | | 1,166 |
| D-11 | 21.62 | 27.60 | | 41.40T | | 2,460 |
| D-12 | 27.37 | 32.20 | | 37.20T | | 907 |
| D-13 | 32.89 | 22.40T | | 31.60T | | 4,791 |
| D-14 | 26.00T | 30.13 | | 32.60T | 71.52 | 4,791 |
| D-15 | 36.11 | 39.80T | | 37.20T | 91.77 | 7,511 |
| D-16 | 35.35 | 28.00T | | 29.60T | 61.64 | 2,979 |
| D-17 | 40.94 | 29.40T | | 22.40T | 61.64 | 1,166 |
| D-18 | 31.68TWT | 33.35 | | 15.40T | 32.3534TWR | 4,273 |
| D-19 | 18.80T | 13.00T | | 40.94 | 72.68 | 5,957 |
| D-20 | 22.54 | 12.80T | | 41.40 | 69.46 | 6,086 |
| D-21 | 23.60T | 8.00T | | — | 69.46 | 2,202 |
| D-22 | 25.30 | 6.90 | | — | 59.494 | 3,497 |
| D-23 | 26.60T | 11.40T | | 41.63 | 59.494 | 9,842 |
| D-24 | 33.58 | 12.60T | 34.73 | 41.63 | 55.56 | 2,202 |
| D-25 | 35.88 | 18.63 | 29.67 | 38.18 | 52.74 | 2,331 |
| D-26 | 40.94 | 28.52 | 27.83 | 27.40T | 52.74 | 2,590 |
| D-27 | 31.05 | 18.63 | 33.81 | 32.89 | 58.26 | 3,885 |
| D-28 | 44.62 | 32.43 | 22.60T | 18.20T | 52.74 | 2,460 |
| D-29 | 39.33 | 27.00T | 27.40T | 17.40T | 55.56 | 1,036 |
| D-30 | 30.82RWR | 39.10 | 28.60T | 5.00E | 32.2208TWR | 4 403 |
| D-31 | 39.56RWR | 35.88 | 24.80T | 21.80T | 52.74 | 4,273 |
| D-32 | 60.03 | 53.13 | 38.40T | 46.92 | 41.17 | 907 |
| D-33 | 63.25 | 53.13 | 32.80T | 39.56 | 30.00T | 1,036 |
| D-34 | 51.29 | 35.80T | 5.00E | 28.60T | 52.74 | 1,813 |
| D-35 | 63.25 | 53.13 | 46.92 | 33.35 | 30.40T | 2,590 |
| D-36 | 59.20T | 44.62 | 19.60T | 27.80T | 52.74 | 907 |
| D-37 | 28.70TWT | 53.13 | 46.92 | 28.5074RWT | 26.22 | 3,755 |
| D-38 | 28.30TWT | 53.13 | 46.92 | 28.1074RWT | 23.46 | 2,331 |
| D-39 | 28.8920TWT | 53.13 | 46.92 | 28.6994RWT | 5.00E | 9,583 |
| D-40 | 29.30TWT | 53.13 | 46.92 | 29.1074RWT | 10.12 | 12,691 |
| D-41 | 23.00 | 9.60T | 41.40 | 39.10 | 69.46 | 907 |
| Plant Capacity (Tons) | 69.282 | 69,283 | 29,785 | 29,785 | 29,785 | 168,350 |

*Lowest freight rates used at all times. Rail used unless otherwise indicated.
T—Truck.
TWT—Truck, water, truck.
RWR—Rail, water, rail.
WR—Water, rail.
RWT—Rail, water, truck.
E—Estimated.

Chart 3—Transportation costs are summarized for proposed locations. Where no costs are shown, the proposed site was deemed theoretically impractical. The column on the extreme right gives the requirement for each destination in tons of material.

**SELECTION OF NEW PLANT LOCATION FROM THREE PROPOSED SITES**
**Summary of Transportation Cost Differentials—**
**Existing Locations and New Plant**

| | *A* *Total Transportation Cost from Plants* | *B* *Excess Transportation Costs Of Raw Materials To Plant Over Existing Pattern* | *C* *Adjusted Transportation Costs (A + B)* | *Excess Cost Over Optimum (P-3 with Existing Plants)* |
|---|---|---|---|---|
| Existing Plants | $1,646,789.00 | 0 | $1,646,789.00 | $ 87,835.76 |
| Proposed Locations | | | | |
| P-1 | 1,704,340.96 | $151,947.98 | 1,856,288.94 | 297,335.70 |
| P-2 | 1,460,707.99 | 345,278.70 | 1,805,986.69 | 247,033.45 |
| P-3 | 1,436,062.36 | 122,890.88 | 1,558,953.24 | 0 |

Chart 4—Final result of analysis based on linear programming.

# COMMUNITY RELATIONS AND YOUR NEW PLANT

***New plants have a tremendous impact on a community and its people. In this article the author, an experienced facility planner, reviews some of the ways his company has made friends in new communities and turned potential problems into public relations assets.***

**By H. Campbell Stuckeman**

*Vice President, Rockwell Manufacturing Co.*

WHEN you establish a new plant that employs 300 people, your decision will affect the lives of no less than 2,710 people in a very direct manner.

This hardly seems possible, but it's true.

Assume that 20 of the 300 will be supervisory people transferred from other plants. And an additional 20 people must be transferred or promoted to take their places—a total of 40 in all. Using an average of five persons per family, this means that 200 men, women and children must make some readjustment in their daily lives. They'll have to seek out new homes, the children will enter new schools, the wives will be forced into a new social environment.

Let's likewise assume that the size of the families of the 280 employees hired locally averages five members. This produces a total of 1,400 people who will be getting all or a principal part of their livelihood from the newly established plant.

Now let's take into account the jobs created when a new plant moves into a community. According to U. S. Chamber of Commerce studies, 74 new supplementary jobs are created for every 100 new manufacturing jobs. The service stations, grocery stores, new construction—everything you can think of to provide outlets for the purchasing power that's created when a new industry comes to town. On the basis of a 300-job plant, that means 222 new additional jobs will be created. And, if you take five to a family, that means 1,110 people are going to be affected.

When so many people are involved, it is obvious that people are a major factor to be considered in the location of a new plant.

How do you go about dealing with the people factor under these circumstances? Specifically, who are the people and what must be done to take into account their needs?

At Rockwell Manufacturing Company, for purposes of plant location, we divide people into two categories:

First, our own people. Primarily, the supervisory people who must be transferred to a new plant. Their titles range from the general plant manager down through shop foreman. They also include a purchasing agent, a plant accountant, industrial engineers and others necessary to maintain standards of quality and productivity. This force generally consists of five to ten per cent of the total work force.

Second, the townspeople. They may be divided into several categories: 1) local governmental and civic officials; 2) local business men; 3) people who will be asked to apply for jobs and from whom we propose to keep our plant staffed on a continuing basis; 4) school, church and cultural leaders in the community; and 5) that indefinable group who will neither work in the plant, nor furnish raw materials or services, nor buy from the plant—your neighbors in the community.

Our company now has 23 plants in operation. They are located in 15 states as far apart as Georgia and California; one plant is in Canada and another in Germany. Ten years ago, however, we had only 13 plants. So you can see that a good deal of our experience in establishing new plants has been recent.

Generally speaking, our record in transferring people from one job to another has been better than average. Admittedly, we have made mistakes; we have transferred a happily settled man in one community to a job in another town where neither he nor his wife was happy. We have either had to move the man again or lose him.

## Selection of Personnel

There are two reasons, it seems to me, basic to the success our company has had in transferring men to new plants. The first and most important reason is that our personnel policies are sound. Our procedures for selecting and developing and promoting supervisory personnel are well-founded; they have worked well for us. By the time a man is ready for transfer to a responsible position in a new plant, we know him well enough to know whether or not he's the man for the job.

The second reason is that a transfer to a new job means an advancement to the man. With the new job, he moves a step up the ladder. When transferring a man, we follow the policy of moving him upwards—never on the same level

The author (right) discusses a plant layout problem with Rockwell engineers. Mr. Stuckeman has for the past eight years been responsible for plant location and plant layout for Rockwell Manufacturing Co. He administers their entire program of physical expansion and plant modernization. He is an architectural engineer and registered architect in Pennsylvania.

unless there are mitigating circumstances or unless a man seeks out a specific location. For example, we will make an assistant plant manager the plant manager at a new plant. Or we will promote a plant superintendent at a small plant to plant superintendent at a larger plant.

The fact that we have a relatively young organization—in which the rewards for advancement are well understood—makes it easier for us to staff new plants with transferred supervisory personnel than probably would be the case in other companies.

We start thinking in terms of supervisory staff just as soon as a definite decision to build a new plant has been made. We try to select a new plant manager even before a specific plant location has been determined. In most of the eight plants we've opened the past five years, the plant manager participated in locating the plant. After the location has been definitely selected, the plant manager moves to the new community, with his family, as soon as practicable—and as early in the construction program as possible. Since construction of a plant usually consumes most of a year, the plant manager is an established member of the community by the time production operations start.

We follow a similar pattern with other supervisory personnel. If we need our own purchasing agent during the course of the construction job, we select the man who will be the plant's purchasing agent. The production superintendent is assigned to the job just as soon as enough of the building is under roof to start training operations. In some instances, we have started training even earlier in rented quarters. Here again our people are asked to move to the new plant community and to relocate their families as rapidly as possible, taking into account, of course, school years and the like.

We think it is advantageous to have the plant manager participate in the final selection of a plant city—or at least to give his concurrence. This gives tangible meaning to the question our management asks itself: "would you like to live in this community with your family?" And we think it has some influence on others in the organization who are asked to re-locate their families.

I wish I could point to some magic procedure that we use to win acceptance of wives of men we transfer. On a long-term basis, we try to put across to wives the message that the road to advancement in a diversified company like Rockwell is through a variety of experience in a variety of locations. We have found that wives will either accept or reject these ground rules early in a man's association with our company. Once a man has been with our company five or six years, we have few complaints about transfers. And since most of the people we would want to send out as supervisors at new plants are senior people, we have a fairly open field from which to choose.

We do everything we possibly can to make a move easy for a family. Wives visit the plant city well in advance of the move to get a firsthand view of the town. Expenses are paid by the company when the wife goes house hunting. If the school term is in progress and it's important that children finish their school term, the family may be delayed. But it's our opinion that the sooner supervisors start functioning as full-fledged members of the community, the better for them and for our company.

Enticing new industry to settle in communities is so highly organized these days that it's difficult to avoid the welcoming committees that greet industrial newcomers. In fact, the extrava-

means
*"fair weather"*
for business growth

The spring-like temperature which most of Costa Rica enjoys the year-round might well be described as typical of the climate for profitable investment which business finds in this progressive Latin American nation. Costa Rica's economy is highly stable—its exchange rate has not changed since 1946 and has experienced little fluctuation since the mid '30's. It is a country in which the rights of nationals and foreigners are fully respected, without discrimination. A near absence of inflation, development of a stable middle class, one of the highest literacy rates in Latin America and the fact that real per capita income is growing faster than the average for the American republics are other examples of why it pays to put Costa Rica in your plans for business growth.

Moreover, a recent $3.5 million loan by the International Bank for Reconstruction and Development for a program to develop agriculture and light industry makes investments especially attractive in such industries as food processing, light manufacturing, forestry, textiles, fisheries, fertilizers and chemicals.

Why not combine business with pleasure and see scenic Costa Rica, "Central America's Switzerland," for yourself. Its beautiful mountains and fertile valleys have helped make it an outstanding tourist attraction in Latin America.

FOR FURTHER DETAILS on opportunities for investing in Costa Rica and for your copy of the brochure, "Investing in Costa Rica," write General Manager, Cía. Nacional de Fuerza y Luz, at the address below or Area Development Section, American & Foreign Power Company, 100 Church St., New York 7, N.Y.

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gances of some of these committees have caused us to look elsewhere in more than one instance. Although we appreciate the efforts on the part of some communities to do a job of super-salesmanship on their behalf to us, we shy away fast when they start leaning on "giveaways" and unrealistic special inducements. We are particularly wary when communities start making special offers even before they learn our identity.

We go into new communities when 1) we know new industries are carefully screened before they are invited; 2) we can pay our fair share—no more and no less —of the tax collection necessary to maintain adequate community services and schools; and 3) we know we are wanted.

### Local Acceptance

Of the three qualifications, the one that's usually hardest for us to determine is knowing whether we are really wanted. For that reason, we make a special point of meeting with local governmental and civic officials in advance of selecting a location. From them, we have been able to gain a good deal of insight into a community's character. We supplement our talks with a technique that's so simple it's hardly worth calling to your attention; nonetheless we think it's worthwhile. We have found that a walk around town (particularly if it's a smaller town) tells a lot about the people—from the governmental level on down to the individual homeowner. We look at the parks to see if the grass is cut, the schools to see what shape they're in, the churches, the waterworks, the homes themselves to see whether they're painted. This, of course, is not a very scientific way of evaluating a community, but we think it gives us the clues we need after all the economic and engineering and cost data have been compiled and brought to our attention.

Once having made a firm decision to locate a plant in a community, we make

> *The sense of humour is the just balance of all the faculties of man, the best security against the pride of knowledge and the conceits of the imagination, the strongest inducement to submit with a wise and pious patience to the vicissitudes of human existence.*
> *RICHARD MONCKTON MILNES (1809-1885)*

every effort to orient local government and civic leaders in our operations as quickly as possible. We take the position that they can be helpful to us only if they have a knowledge and appreciation of our plans and objectives. In most cases, we have sponsored luncheons or dinner meetings where our management people can tell our story to local leaders. This happens within days from the time we make our decision—long before our formal groundbreaking.

### Local Contact Important

We follow this up by keeping local leaders informed of plans. Continuing contact is maintained—we do everything we can to avoid having them learn of major developments by "reading it in the newspaper." We put these people on our mailing list to receive various communications—our financial reports and other literature descriptive of our company's operations. Our overall objective is to develop a feeling of partnership with the community—to bring about the feeling that we are mutually dependent upon one another for a successful venture.

Since there is substantial duplication in those who are local civic leaders and officials and those who represent local business interest in the smaller towns in which we locate our plants, our problem is somewhat simplified.

The impact of a new plant on a local businessman can be in one of two directions: the first reaction is that the new plant will bring about a marked increase in the community's purchasing power. In addition, a company such as ours also is looked to as a stabilizing influence on the local economy—particularly in agricultural areas where the economy is affected by seasonal factors. This is a positive reaction and we have learned that we must face up to the danger of over-optimism from the very beginning.

### Won't Solve All Problems

We do this by driving home the point that no single plant is the answer to every problem faced by a community. Sure, we can add materially to local purchasing power but we can't work miracles. Another pitfall we have learned—by experience—to avoid is making unrealistic estimates of the number of jobs a new plant will provide. In almost every place we have located plants, we have been confronted by well-meaning, but over-zealous civic officials who have wanted to double or even triple our employment estimates. We try to go the other way by taking a figure lower than what we actually anticipate. Then we say it'll be a long time before we can build up to this level of employment.

The second kind of impact that a new plant brings about is, more or less, negative. Employers in the town are suspicious of what a newcomer will do to wage rates. Even local merchants who stand to gain much from a new plant often wonder if they may not be better off with a status quo situation. They are fearful of the spectre of their best people leaving their employ to accept employment at highly inflated wage rates in a spanking new industrial plant.

Here again, a direct approach brings the most satisfactory results. By having our management people talk at Rotary, Kiwanis or Junior Chamber of Commerce meetings, we deliver the message that we did not select this particular location for the purpose of disrupting the local economy. Our policy in establishing wage rates at a new location has always been one wherein we take into account both local wage levels and the wage levels in the industries in which we operate. We seek a good day's work for a good day's pay and in practically every place we've located, we've been eminently satisfied with the labor force we've attracted. And I believe I can say with a degree of truthfulness that we've been able to become real friends of other employers in the community.

### The Announcement

If you've ever lived in a town of 10 or 15 or 20,000 people, you know how big a stir an announcement of a new plant can create. For a while, almost everybody is interested—it's the number one topic of conversation. On Sunday afternoons, the local populace will drive out to the site in swarms. They take a personal interest in every stage of construction. In most small towns, the people have a strong sense of identification with a new industrial undertaking—even though neither they themselves nor members of their families are job seekers or prospective suppliers. It's just the way things are in a small town.

We like this attitude on the part of the local citizens. We do everything we can to encourage them to continue their interest in the plant. We want them to

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New Bulletin No. 47, describes DIAMONTEX Perforated Metal Lay-in Panels for Modern Acoustical Ceilings.

be proud of this new element in their community life. When time comes for groundbreaking, we make a celebration of it—not something limited to a few politicians who'll end up getting their pictures in the paper. We invite the whole town—and the people turn out. Then when the plant is finished, we have a big open house—again for the whole town. When we opened our plant in Sulphur Springs, Texas, we had 5,400 people attend our celebration—out of a total population of 9,000. And we served every one of them a real Texas-style barbecue dinner inside our air-conditioned plant—without any doubt at all the coolest place in town.

A steady flow of information about our plans and progress goes to a community while our plants are being constructed. We try to explain in as much detail as possible our company philosophy, our products and where they are used, the kind of plant we are building and why it will be a good place to work. We do this through many of the channels familiar to us all: the news columns of local papers, paid advertising messages, speeches to various civic clubs—and in this category, don't forget the ladies clubs—almost every channel of communications available to us. We make a practice of distributing our literature to barber shops and beauty parlors and to reception rooms of dentists and doctors. By the time we're ready to start operating, it's safe to assume that most of the people in town know who we are and even a little bit about what kind of people we are.

people . . .

. . . not just people, but dependable employees . . . employees who have made NEW industries happy with their location in Alabama.

If you are considering expansion of your manufacturing or distribution facilities, write in confidence for facts and figures about other prime advantages offered by a location in the State of Alabama.

Industrial Development Division

*Alabama Power Company*

*Helping Develop Alabama*

Birmingham 2, Alabama

### Recruitment

All of this, of course, produces tangible benefits when time comes for us to recruit a work force. We receive considerably more applications than we can accommodate with jobs. Every application or letter we receive is acknowledged. In most towns in which we locate, we receive a minimum of three or four applications for every job. This, in our opinion, has one major benefit. It enables us to be extremely choosy in picking our initial work force. The fact that our new plants have been exceptionally good from the standpoint of absenteeism, labor turnover, productivity and other labor relations yardsticks has, we believe, substantiated our belief that it's worthwhile having a large number of applicants to choose from.

There's one specific group in every community—particularly the small towns—that takes a great deal of interest in a new industry coming to town. (If I tend to dwell on conditions that affect the small town, I am being entirely subjective; all of our recent plants have been located, by choice, in smaller communities; accordingly, that's the only experience I can report on.) I speak particularly of the young people in a community. Those of high school age.

### Futures for Young People

Even at that early age, many of the youngsters we've encountered seem to have sufficient perspective to be able to look on a new plant as a place of opportunity that did not exist before. Some of the high school students—both boys and girls—look on the new plant as a place where they'll go to work after they graduate. Some few others regard it as the stepping stone that will move them to the world outside. We do everything we can to capitalize on the natural impact the news of a new plant has on these young people.

We do a good deal more than mere-

ly acknowledge their letters when they write us—and they always do—and tell us they'll be graduating in two more years and will we have a job open for them. We invite school groups—teachers as well as classes—to visit our plants. Every one of our plants is actually on a schedule whereby trips are coordinated for the different age groups throughout the school year. We particularly want teachers to know who we are and what we are doing. Many of our technical specialists actually contribute to classroom teaching. Very often one of our chemical engineers will address the high school chemistry class; our master mechanic will give a lecture and demonstration to the class in metalworking. We even get requests months in advance asking one of our staff specialists to talk before a class on his next trip to the plant. Because of our Delta Power Tool Division, we are naturally interested in woodworking at the high school level. We help fill out school workshops in plant cities with equipment and we make available as teaching aids all manner of workshop literature. We also establish a manual training prize recognizing superior accomplishment in this field by students.

> *Three things are to be looked to in a building: that it stand on the right spot; that it be securely founded; that it be successfully executed.*
> *JOHANN WOLFGANG VON GOETHE (1749-1832)*

Frankly, I am not at all surprised when I hear reports from schools that most of the kids want to go to work for Rockwell when they graduate. And I don't know anything that gives our people a greater sense of satisfaction—or more confidence in the future.

This, of course, is not intended to be a dissertation on community relations . . . or of the things that should be done after a plant gets into operation.

The most important point I can make, I believe, is that the time to start the process of building good-will is from the time the first announcement of a plant location is made—and, in some cases and with certain groups, even earlier. The time people are most receptive is when the original impact has been made. People have a normal craving for being on the "inside." We try to satisfy this desire by communicating to them as much information as we can as quickly as we can. It sounds simple, but I think it has worked for us.

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comes naturally in BROOK HOLLOW

Success growth is already an established tradition in four-year-old Brook Hollow.

A food manufacturing firm has completed its second major expansion in Brook Hollow, more than doubling the size of its plant. A chemical firm tripled the size of original Brook Hollow facilities in two expansions. Three firms recently doubled the size of their Brook Hollow facilities.

Expansion comes naturally in Brook Hollow—it was PLANNED that way. Check Brook Hollow for reasons why 170 national and regional firms have built 4,000,000 square feet of modern plant facilities there.

Windsor properties, inc.

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40 MILLION CONSUMERS ARE JUST ONE NIGHT'S HAUL AWAY

*from the abundant natural gas in Michigan*

At dusk, trucks of 190 scheduled lines roll out of communities served by Michigan Consolidated Gas Company. By dawn, they can reach a quarter of the nation's consumers: 8 million of them in Michigan alone, 35 million of them in the Great Lakes states, the nation's largest market for *both* consumer and industrial products. Centrally located? You bet Michigan is.* But that's not all. Take into account plentiful, economical natural gas. It's stored year-round in Michigan's 12 vast, underground fields, assuring you low-cost industrial heating and processing. Consider Michigan's large, highly skilled labor force. Check into the low shipping rates. And get confidential plant site information simply by contacting our Industry Development Division, Detroit 26, Michigan. **World markets beckon, too, via the coming St. Lawrence Seaway.*

MICHIGAN CONSOLIDATED GAS COMPANY

So much more for so much less—GAS *naturally*

# *Custom-tailored site solves plant location puzzle!*

No two companies have identical plant site requirements. Your problems are unique. We know this and are therefore prepared to "custom-tailor" a site that in size, shape and location will meet your particular specifications. Further, Western Pacific's Industrial Development Department can usually arrange to have all utilities installed and road improvements made before you start construction. This, too, will be done to fulfill your company's specific requirements in every respect.

For confidential information about the numerous Northern California plant site locations on the lines of Western Pacific and its subsidiaries, get in touch with F. B. Stratton, Director, Industrial Development Department, Western Pacific Railroad, 526 Mission Street, San Francisco, California.

**WESTERN PACIFIC**

ROUTE OF THE VISTA-DOME *California Zephyr*

# OHIO RIVER

Steubenville
Wheeling
Parkersburg
Cincinnati
Portsmouth
Madison
Ashland
Louisville
Evansville
Owensboro
Cairo
Paducah

# The Ohio Valley

The new Paddy's Run power plant of the Louisville Gas & Electric Company located on the Ohio River below Louisville.

**Call it what you will—"The American Ruhr" — "Voltage Valley" — the Ohio basin is and will continue to be one of the nation's key industrial areas. Here's a fresh report by ID's editor on what's happening along the river's 918 miles.**

PITTSBURGH. Our airplane, a small Cessna 182, is parked on the ramp directly in front of the terminal at Allegheny County airport here. We have a sectional aeronautical chart spread out on the horizontal tail surface, making notes for the flight plan we're about to file.

In a few minutes we'll be off for a site inspection tour along the Ohio—a winding route stretching more than 900 miles to Cairo, Illinois. We want a fresh view of what has been called "voltage valley" or "the oversized American Ruhr."

We want to know the present state of development on the river and in the adjoining valley. We want to know the outlook for the immediate future. And, specifically, we want to know whether there are still good sites available, and where they are.

Our interest was aroused a good many months ago in the Baltimore office of Gayle W. Arnold, development chief for the B&O railroad. "ID has surveyed cities, counties, and states" he said, "but wouldn't it make just as much sense to study an entire river valley?"

We had to agree the idea was sound. For many types of industry, the site investigation follows the stream, more or less ignoring state lines and metropolitan areas. The Ohio Valley obviously proves this point—moreover, we had already covered parts of the valley

# *Prepares for a New Surge!*

**By H. McKinley Conway, Jr.**

enough to realize it held a big development story.

As Arnold put it, "any look at the Ohio necessitates a wide-angle lens . . . strangely enough, the multiplicity of new industry developments is not in such metropolitan areas as Pittsburgh, Cincinnati, or Louisville, but makes much of the countryside valleys and villages such as Moundsville, New Martinsville, Marietta, Parkersburg, Ravenswood, Gallipolis, Calvert City and the like.

"Along the 981 miles from the confluence of the Monongahela and Allegheny Rivers at Pittsburgh, south and west to the point where the Ohio empties into the Mississippi at Cairo, the territory technically belongs to Kentucky, West Virginia and Pennsylvania, but borders also the states of Ohio, Indiana and Illinois. Through a valley mostly narrow and crammed with mountains and foothills are steel mills, coke ovens, power plants, chemical plants, aluminum plants, uranium processing and gaseous diffusion plants. Investmentwise, power plants constitute the largest slice of this industrial cake, with steel next, chemicals third, and a very considerable miscellaneous aggregation making up the remainder.

"One may well ask what impelled Henry Kaiser to select tiny Ravenswood, W. Va. as the site for a $250,000,000 aluminum center, or Morse G. Dial and his associates to settle on the non-euphonic wide place in the road called Gravel Bank-Riverview, between Parkersburg and Marietta, for another quarter-billion-dollar electro-metallurgical and chemical complex. The answer here is not so easily come by as the reason for the dominant electric power development, where the two essentials—coal and water—dictated the answer. Nor can river transportation be advanced as the primary reason for these and other facilities, or for the industrial complex constituted by the Cresap, W. Va.-Omal, Ohio coal, power, aluminum and chemical plants, of which Consolidation Coal, American Electric Power, Standard Oil of Ohio, Olin Mathieson and Revere are the progenitors.

"The compelling factors in the immense development in what is after all a geographically limited area in comparison with the nation as a whole constitute the reason for the lead story herein, and provide one more example of the basic truth all too seldom realized, that industry is in fact more and more the life blood of the nation, our much vaunted dependence on agriculture to the contrary notwithstanding.

"Whether it be markets and population; water for processing and transportation; dependable rail transportation; constantly improving highway access to the markets of the east and south, or other reasons having more potency in the individual instance, the fact remains that, as no place else in the nation, the Ohio River valley demands the attention of the industry executive whose motive is expansion under economic limitations. The steady development of the area is not a boom, nor it is due to unseen pressures. It is rather the steady growth of an area whose economic factors present such forceful argument to industry executives that consideration necessarily must be given to the Ohio River as a primary target with which to compare production sites almost anywhere east of the Rocky Mountains.

"Much has been done; the end is not in sight."

While we're tempted to write "finis" under Arnold's eloquent summary, there's a lot more to the story, as he would quickly agree. For the Ohio has moved hard-headed businessmen to the brink of poetry since the riverboat replaced the indian canoe.

Harry M. Mack, President of the Ohio Valley Improvement Association, calls the Ohio "a river come alive," and traces its development from early times. "Following the Revolutionary War, flat boats and keel boats were used for commercial transportation," he points out. "Then, beginning with the first steamboat on the Ohio in 1811, came the fabulous era of the packet boats. During 1852, a total of 8,000 steamboats docked at the public landings in Cincinnati, an average of 22

# Chemical Industry Construction Up 81% In Ohio During Last Three Years

DOW CHEMICAL COMPANY
WILLIAM S. MERRILL CHEMICAL COMPANY
GEBAUER CHEMICAL COMPANY
AMERICAN ZINC OXIDE COMPANY
AMERICAN AGRICULTURAL CHEMICAL COMPANY
DuPONT DeNEMOURS & CO., INC.
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ALLIED CHEMICAL & DYE CORPORATION
REESE CHEMICAL COMPANY
HARSHAW CHEMICAL COMPANY

## *If you live on water... you'll thrive in Ohio!*

**In 1956 Ohio** ranked third in the nation with $153 million in chemical plants under construction.

**Today, the chemical** industry has announced additional investments of $124 million — an increase of 81% in less than 3 years!

**Much of this phenomenal** growth has occurred in the Ohio River Valley, its tributaries and along the southern shore of Lake Erie.

**Here is a free** full flow of raw water amounting to more than a billion gallons a day — with additional billions close to the surface underground.

**Here is quick,** low-cost access to coal, oil and natural gas fuels.

**Here is a network** of close-at-hand transportation facilities — barge, rail, highway, air.

**Here is a highly skilled** labor pool, largely Ohio-trained in the nation's most extensive school system.

**Here is a center** of chemical research with laboratories and development facilities throughout the state staffed by trained researchers.

**Here are shoreline** industrial tracts from 100 to 1000 acres which may be purchased outright or on installments leased for a long term, or leased with option to buy.

**Here is the healthiest** of business climates in a state which employs its taxes and interprets its laws to promote profits rather than penalize them.

***For detailed information** on available industrial sites or any aspect of plant location in Ohio, write or phone Division of Economic Development & Publicity, Ohio Dept. of Commerce, Columbus 15, Ohio.*

*If you're looking to the future . . . locate in* OHIO

for every day of the year."

Today, Mack reminds, the Ohio is even more alive, with industrial development running well ahead of the national average. "The communities, county by county, along the banks of the Ohio have a population of about 3 per cent of the nation's total, but during a recent 6 year period they have been the site of nearly 7 per cent of the nation's new investment in manufacturing and utility plants" he says.

Another authority estimates that since 1950 more than $13 billion has been invested in new and expanded plants along the Valley. The result is that today the Ohio Valley area produces three times as much steel and coal as the German Ruhr with which it has been compared. More important, it has been diversifying rapidly with new atomic energy installations and huge new aluminum plants.

### The Kaiser Story

Regarding this latter development, listen to what Ford R. Morrow, official of Kaiser Aluminum and Chemical, has to say:

" 'Discovery'—and quotes should be used around the word *discovery*—of the Ohio Valley by the aluminum industry was as inevitable as the true discovery of the New World some 450 years ago . . . and for some of the same reasons:

"New source of raw materials . . . New water routes in the flow of materials . . . Shortest possible routes to markets . . .

"Using for a moment the same analogy, let us look at the economic ingredients necessary for profitable production and sale of aluminum.

"*Power*, a raw material in the production of aluminum . . . tremendous amounts of power are required. For example, in order to operate Kaiser Aluminmum's new reduction plant in West Virginia, our power contract with Ohio Power Company, a subsidiary of American Gas & Electric, calls for 450,000 kilowatts—the largest single power contract ever negotiated between two private parties—enough power to provide the needs of a city twice the population of Cincinnati.

"*Material flow* . . . geographically a problem because the basic material, the raw "ore," bauxite, in our case must be imported . . . it comes from Jamaica in the British West Indies, and even though its bulk is cut in half by beneficiating to produce alumina—aluminum oxide—we are still faced with the cost of moving *one and one quarter million tons* of semi-processed material annually to produce one half that amount of finished products, fabricated aluminum . . .

"Add to this our cost of shipping the finished product to the customer—a cost traditionally absorbed by the producer in the aluminum industry—and you can readily see the desirability of the next factor, the *shortest possible routes to markets.*

"Thus you can also see that, while our "discovery" of the Ohio Valley may not be *quite* as revolutionary as Columbus' discovery of America, some of the same motivation is involved . . .

"Seriously . . . now examine how effectively the Ohio Valley fulfills these basic requirements and why this "discovery" of the valley caused a nationally syndicated columnist to write just before the 1956 political activities:

". . . an industrial change, now almost unnoticed, will have become a reality. That change will have more effect upon the lives of Americans than all the mouthings of politicians and the guessing of the curious."

"The specific reference was to Kaiser Aluminum's decision to produce aluminum in the Ohio Valley utilizing *coal* as the major source of electrical energy . . . A decision which was to spell a renaissance of coal in the Ohio Valley . . . for Alcoa followed with the same decision in Evansville, Indiana, as did Olin Mathieson and Revere near Clarington, Ohio.

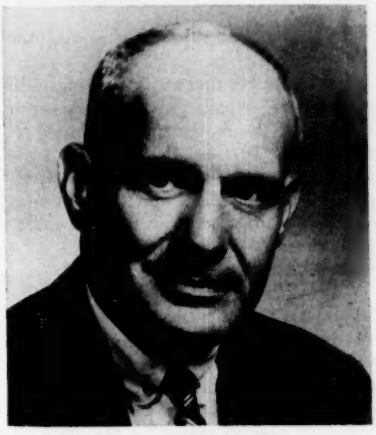
"The aluminum industry's turn to coal can be directly attributed to the increased demand for the modern metal . . . the increased efficiency in coal mining and coal-based steam generating plants . . . dwindling or uncertain availability of other resources for generation of electrical power.

"As you know, the aluminum industry in the United States has had a spectacular growth record. As of the middle of this year, installed rated reduction capacity—capacity to produce primary metal—was 1,775,500 tons annually. Compare this with only 300,000 tons capacity of 1940 and you see production *has increased five fold in 15 years!*

"Electrical power for this growth prior to the decision of Kaiser Aluminum to turn to coal had primarily come from two sources—hydroelectric power and then natural gas . . .

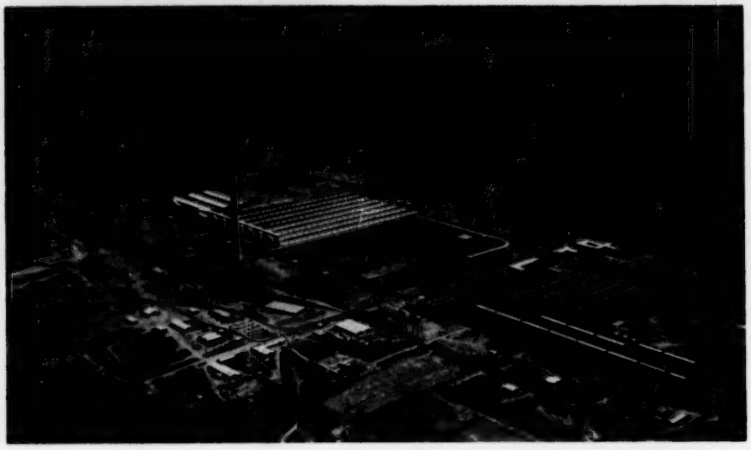
"Until 1948, all aluminum in this country was produced with hydroelectric power . . . except for some World

**Gayle W. Arnold**
*Baltimore and Ohio Railroad*



**Harry M. Mack**
*Pres., Ohio Valley Improvement Assn.*

**Brig. General W. W. Lapsley**
*U. S. Army Corps of Engineers*



Aerial view of Kaiser Aluminum & Chemical Corporation's Ravenswood, West Virginia, works on the Ohio River. The reduction plant, which produces primary aluminum, is located at the left. Primary metal is then cast into ingots and rolled into plate, sheet and foil at the rolling mill in the lower right. (Kaiser Aluminum Photo)

War II emergency production and one plant in Arkansas.

"Before 1940 there was no aluminum production West of the Mississippi River, but the Northwest had huge resources of surplus hydro from such dams as Bonneville and Grand Coulee, plus many favorable undeveloped sites on the Columbia River and its many tributaries.

**Aluminum Production**

"The first aluminum plant in the Northwest was built at Vancouver, Washington, in 1940. The following year another was built in Longview. In rapid succession three more were built, utilizing the available power to supply critically needed metal for the arms of war. By 1944 the Northwest was producing nearly 50 per cent of the total production in the United States.

"Expansion of the aluminum industry in the Northwest continued until 1950 when gradually unexpected increases in power demand for home and commercial use, water shortages and a slump in the Columbia River development program prevented the allocation of further blocks of energy to the industry.

"Rising construction costs, difficult financing and political controversy added to the problems of hydroelectrical development . . . the industry turned to natural gas in the southern Gulf States. In five years more than one-third of the electrical power used in aluminum production was derived from natural gas.

"While gas helped fill the gap between 1950 and 1955, it could not be depended upon for long range plans of the industry . . . its increasing rates indicated it would not be able to remain competitive with coal . . . the widespread extension of transmission lines —42 of the 48 states now are served— required commitments of large gas reserves for long periods of time . . .

"To gird itself for the almost unlimited horizons in the market for aluminum the industry has been forced to conclude that if there is to be expansion there is only one way to turn . . . to coal!

"Fortunately, coal based electrical power was ready for the challenge! The advance in the art in design of steam plants has shown such remarkable improvement that it is now possible in the most modern plants to generate 1 kilowatt hour of electricity from as little as 6/10 of a pound of coal. Through outdoor-type construction, larger generating units, improved combustion, and through the very force of load growth itself the cost of electrical power production in steam generating plants is following a constantly downward trend.

"Reserves of coal have also been reappraised. According to the United States Geological Survey of 1950 more than 95 per cent of the nation's recoverable coal still lies in reserve . . . on the basis of the average annual rate of production in the past ten years there is enough recoverable coal (50 per cent of the total known reserves) to last this nation for at least another 1600 years!

"A substantial portion of this reserve lies near or adjacent to the Ohio Valley and its navigable tributaries.

"So much for power . . . let us look at the material flow factor . . . a matter of geography. Prior to the "discovery" of the Ohio Valley, Kaiser Aluminum had a substantial portion of its primary capacity in the Northwest where the semi-processed material— aluminum oxide—was shipped nearly 3,000 miles for reduction to metallic aluminum. Our sheet, plate and foil fabricating capacity was also in the West, but *70* per cent of the *total market* was *2,000 miles away*—East of the Mississippi!

"In the competitive picture, then, our raw material in effect was shipped 3,000 miles and our finished products 2,000 miles . . . all at our expense!

"Nor was the competitive picture much improved by the use of gas-generated power because the metallic aluminum was still nearly 3,000 miles away from sheet, plate and foil fabricating facility . . .

"If you place a dot on a map of the United States to locate the geographical center of 70 per cent of the aluminum consuming market of the nation it falls near here in the Ohio Valley . . . and this huge market—probably the largest in the world—lies within a *500-mile radius of Kaiser Aluminum's Ohio Valley location!*

"The 'discovery' of the Ohio Valley has chopped 1,000 miles off the flow of 'raw' material, aluminum oxide, and up to 2,000 miles for mill products!

"It means clearly that those who have prophesied that the only future for aluminum rests in the wilderness of Northern Canada or Alaska, or in faraway foreign lands, were wrong . . . let the prophets now look at the Ohio Valley!"

Morrow's statement and others of similar nature leave no doubt concerning the overall plant location attractions of the Ohio Valley. Closer inspection of these favorable factors lends support to their arguments.

Take water, for example. Comprehensive studies are being made of every aspect of utilization of the Ohio, to insure continued growth potential. Valley developers are exploring the river as a continuing source of industrial process water, as a means for waste disposal, as a source of water for municipal uses, as a transport route, and as a recreational resource.

One of the key agencies in this picture is the Corps of Engineers, U. S. Army. The Ohio River Division is headed by General W. W. Lapsley, with offices in Cincinnati. He directs an $885 million navigation dam replacement and modernization program.

**Be sure to check on the advantages of a Kentucky site when you are considering a new home or branch location for your company.**

***OUR SERVICES COVER ALL PHASES OF SITE SELECTION . . .***

- Plant location analyses
- Raw materials
- Geological data
- Water resources
- Industrial facilities
- Transportation
- Topographic maps
- Labor studies
- Agricultural production
- Market research
- Tax studies
- Freight rates
- Power and fuel
- Community resources

**Here are a few of the many "Blue Chip" firms now adding to the Bluegrass State's industrial might:**

General Electric
Air Reduction
Pennsalt Chemicals
B. F. Goodrich
Ford
General Tire
R. J. Reynolds
International Paper
IBM
W. R. Grace
Sylvania Electric
Ashland Oil
Armco Steel
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Kentucky Utilities Company
*Lexington — Phone: 5-4224*

Louisville Gas & Electric Company
*Louisville — Phone: JU 2-3511*

Western Kentucky Gas Company
*Owensboro — Phone: MU 4-2301*

Kentucky Chamber of Commerce
*Louisville — Phone: JU 3-2794*

Kentucky Department of Economic Development
*Frankfort — Phone: CA 7-2281*

Summarizing a recent progress report, General Lapsley said "Percentagewise, in number of starts, we are a bit more than 25 per cent along on our program. Three locks, New Cumberland, Greenup, and Markland, are nearing completion; cofferdamming for locks at New Richmond is underway, and we have started construction for Lock 41 at Louisville. Thus, five projects are underway, out of the 19 in the overall program. These five projects, when completed by 1963, will provide navigation improvement for about 350 miles of the river, or 35 per cent of the 981-mile main stem. Pike Island, which will be started in the summer of 1959 will bring the total to almost 400 miles when it is completed in 1964.

"We have made much progress in flood control . . . but much more remains to be done.

"We have built 33 of the 81 reservoirs which are a part of our Comprehensive System for Ohio Valley Flood Control. We have built 51 local flood walls and levees out of over 100 called for in our plan. The 51 completed flood walls and levees provide a good measure of protection to most of the major concentrations of people and industry.

"What we have accomplished represents work completed only in the last 20 years because, actually, it was only after the record Mississippi River flood of 1927 and the Ohio Valley's great disaster ten years later, that a real start on flood control was undertaken by Congress.

"Four years ago, the tail of Hurricane Hazel swept through the upper portion of the Ohio Valley. Ten flood control reservoirs, which ring Pittsburgh, more than paid for themselves in a single weekend by preventing damage of about $150 million."

Water-supply and recreational aspects of the Ohio improvement program were brought out in a statement by Paul B. Mason, technical liaison officer in the Army Engineers' Cincinnati office:

"Chambers of Commerce and travel agencies may one day picture the Ohio River not merely as one of this country's great liquid arteries of commerce, but as a 981-mile 'Chain O'Lakes' which can become one of America's finest small boating and receational attractions.

"The 'lakes' actually will be pools impounded by 19 new navigation locks and dams now under construction.

"The new navigation pools, affording deeper, wider water, will average better than 50 miles in length, against the 20-mile average of 46 present pools.

"Lift of the new locks will vary from 20 to 37 feet—with the latter figure encountered at Lock No. 41, modernization of which is currently under way at Louisville, Ky. The pool of Locks and Dam No. 41 will extend more than 70 miles upstream to Markland, where river craft will be lifted 35 feet to a pool which will control a 95-mile stretch past Cincinnati's front door to the New Richmond Locks and Dam.

"With Markland in operation, Cincinnati's pool stage will be approximately 25.5 feet, compared to 11.5 feet which has prevailed since original canalization of the Ohio was completed in 1929.

"The new and much longer pools undoubtedly will be the most enticing attraction to members of the inboard-and-outboard clan. In one instance—in the Cannelton, Indiana pool—it will be possible to make a 230-mile round trip cruise without the necessity of locking through. Markland pool itself will provide an out-and-back run of 190 miles. In 327 miles from Gallipolis Dam to Louisville, only three lockages will be required, against 13, as at present."

Naturally, one of the major objectives of the Army Engineer program is to increase the capacity of the Ohio for handling barge traffic. Over the past 40 years, traffic on the river has increased at about 9 per cent per year—much faster than national industrial growth —and river developers are eager to maintain this pace.

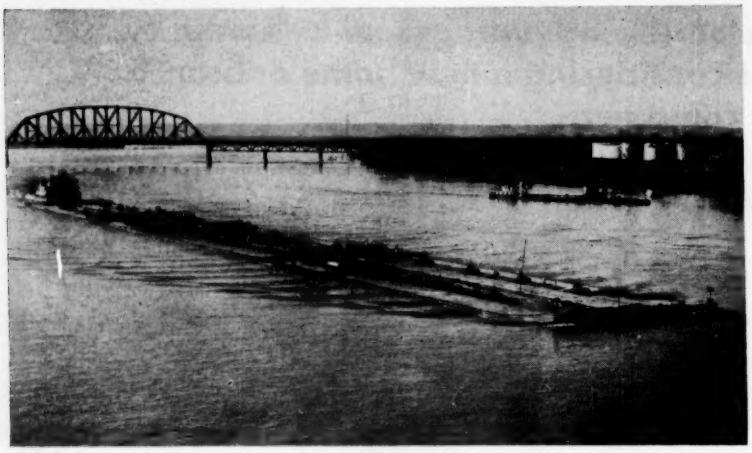
In terms of ton miles, annual traffic increased from 1.1 billion in 1926 to 2.7 billion in 1936, 5.0 billion in 1946, and 16.0 billion in 1956. The estimate for 1966 is 31.7 billion.

Why this steady and rapid increase? You'll find the answers in a comprehensive study of "The Economic Effects Of Ohio River Navigation" by Joseph R. Hartley, issued recently by the School of Business at Indiana University. Among significant findings reported by Hartley are these comments:

"Modern barge service on the Ohio River has notable inherent advantages and certain limitations. Costs range in the neighborhood of .4 cents per ton-mile compared with rail costs of about 1.4 cents per ton-mile. Most of the economies grow out of the ultimate of mass-transportation and the low power required to push a load through water. The large capacity of barges adapts them best for cheap movement of bulky raw materials which America's industrial machine uses in increasingly vast quantities.

"The slow speed of towboats and the requirement of large tonnages and high handling costs for transferring non-bulk cargo to land carriers for distribution inland makes them unattractive for movement of high value packaged goods. This class of cargo moves primarily on railroads and trucks and will continue to do so in the foreseeable future.

"The following breakdown of traffic on the Ohio River in 1957 reflects its use primarily for moving bulky materials: Coal and coke, 32.9 per cent of



Many improvements have been made in recent years in barge transport. The vessel pictured is the *Aetna-Louisville*, belonging to Ashland Oil and Refining Co. It is powered by three 1600 hp diesel engines and is carrying 30,599 tons of petroleum products. A barge of this type can travel from Ashland to the Gulf and back (3200 miles) in 20 days.

total ton-miles; petroleum, 34 per cent; iron and steel, 19.9 per cent; chemicals 7.6 per cent; other commodities, 5.6 per cent. Coal constituted 54.7 per cent of total traffic in tonnage terms.

"The gap between average railroad rates and barge rates has widened since World War II. Common carrier barge rates have risen slower than rail rates. Costs and rates of barging coal have increased by a small amount, while petroleum rates have actually declined about 50 per cent since the high of World War II. Part of the insulation of barge costs from inflation is attributable to the fact that the waterway improvements and maintenance costs are met by public rather than private capital. The remarkable increase in productivity of towing equipment has also played an important role in keeping rates down.

"The transportation savings attributable to freight movement on the Ohio River and its tributaries are clearly passed on to shippers. The numerous contract carriers compete sharply with each other to attract shipper business. The presence of vigorous raliroad competition also prevents any towing company from monopolistic control of the transportation market.

"Coal is king on the Ohio River just as it is for the railroads serving the Ohio Valley because of the almost ubiquitous coal reserves there. The states lying along the main stream of the river produced 84.8 per cent of the nation's bituminous coal in 1957. While coal production has remained on a plateau until very recently, river shipments of coal have risen steadily since 1929.

"The total of the River's impact has been to spark a major industrial boom in the Ohio Valley. Approximately $13 billion has been invested in industrial facilities since 1950 in counties along the River and its tributaries. The increase of per capita incomes and retail sales and urban expansion has been higher than the national average in the decade from 1947 to 1957. The Ohio Valley as a whole is still relatively less prosperous than the nation, however. Declining employment in the coal industry and the technological obsolescence of the small hilly farms has caused a severe and protracted recession in parts of the Valley, such as Eastern Kentucky, West Virginia, Eastern Ohio, Southern Indiana, and Pennsylvania. The surplus labor of the area

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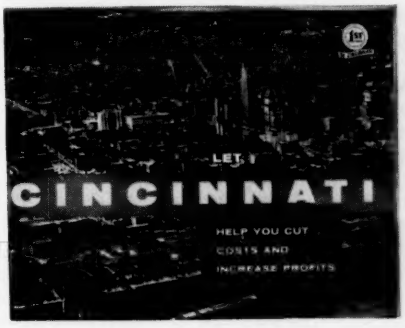


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has been an important factor in attraction of new industry."

Still another facet of Ohio Valley development is the handling of industrial water use, including the complex regulation of waste disposal. Like other major streams long used by cities and industry, the Ohio has a pollution problem. But, unlike some others, it has an aggressive stream sanitation program which is achieving results.

This program, under the guidance of the Ohio River Valley Water Sanitation Commission in Cincinnati, is of concern to every site-seeking firm which expects to use the stream. The Commission is an effective interstate agency representing Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia, and West Virginia.

Among Commission reports you may wish to review are included the following:

(1) "Industrial-Waste Control Policy and Procedure," adopted April 6, 1955. This document contains four basic industrial waste requirements that have been adopted by the Commission.

(2) Chloride-control measure. Resolution No. 17-58, adopted September 12, 1958.

(3) Resolution implementing chloride-control program. Resolution No. 18-58, adopted September 12, 1958.

(4) Oil-control measure. Resolution No. 20-58, adopted September 12, 1958.

(5) Recommended practices for oil-pollution control. Resolution No. 2-59, adopted February 6, 1959.

(6) Set of ten annual reports, 1948-58.

The Ohio River Valley Water Sanitation Compact, which became effective June 30, 1948, is printed as Appendix A to the First Annual Report. This document sets forth the powers and responsibilities of the Commission.

Noteworthy is the fact that the Commission's program to clean up the Ohio and keep it clean is spearheaded by a group of industry committees made up of representatives of interested industrial firms. There are committees for the steel industry, for metal-finishing, for distilleries, for chemical salts, for bituminous coal, for oil refineries, organic chemicals, and for aquatic life.

A scoreboard issued by the Commission a few months ago shows progress which has been made in the short space of five years. Of 1,459 plants whose effluents are discharged directly into the stream 54 per cent are now provided with control facilities regarded as adequate by Commission standards. Five years ago, only 26 per cent met the test.

It is evident that the states along the river are determined to preserve their priceless asset so that it will continue to attract industry in the years ahead.

### Rail Site Investigations

In looking at the Ohio Valley, it's easy to look at the river simply as a route for water-borne transport. But that's just a small part of a bigger story which you must see if you're to have the proper perspective.

Despite the importance of the barge traffic, railroads still dominate the transportation picture in the valley area. Major rail lines criss-cross the valley from one end of the valley to the other, linking valley cities with national market centers.

The fact that many of the nation's biggest and most aggressive rail lines serve the valley is without doubt an important reason the area has developed so impressively. These same lines today are in the forefront of valley promotion.

Among the roads which figure prominently in valley development are the Baltimore and Ohio, the Pennsylvania, the New York Central, Chesapeake and Ohio, Louisville and Nashville, Illinois Central, Norfolk and Western, and the Detroit, Toledo, and Ironton. All have professional development experts who can give you valuable aid in planning your expansion in the area.

Moreover, the railroads have done more than any other one group to identify and reserve suitable industrial sites for future use. This land planning is based on awareness that not all of the Ohio's 900 plus miles of riverfront is suitable for plant location.

In fact, some observers claim that there is a shortage of sites on the river. They point out that when you deduct frontage which is susceptible to flooding, that which is too high or too rough, that occupied by public works, and that which is unsuitable for other reasons, there isn't a huge amount of land left, especially on the upper river.

Undoubtedly, a land speculator bent on acquiring Ohio frontage for resale would find it difficult to lay his hands on any property at attractive prices along great stretches of river. But this doesn't mean there's any actual shortage of land. When you fly down the river at low altitude you find miles of relatively untouched areas.

The answer is that in the most heavily-developed parts of the river most of the good industrial sites have been bought by industry or are being held by developers or others for sale to industry. Enough sites to take care of industrial growth for the next decade are identified on charts submitted to ID's editorial offices within the space of a few weeks.

But the picture changes quickly. Any appraisal of site availability must be current to be significant.

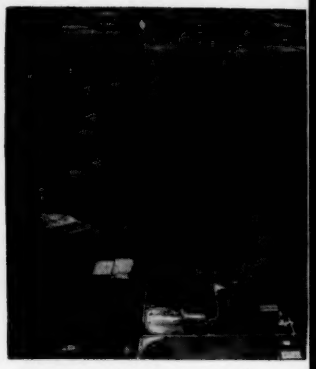
One large industrial firm discovered this fact recently when it made a restudy of some 35 sites it had found in a survey about five years ago. Today, the company found, only a half-dozen of the sites are still available.

That's why it is so important for you to know about the site work of the railroads in the Ohio Valley. Let's take a quick look at some of the programs:

The New York Central System touches the Ohio at half a dozen different points. NYC trackage parallels the

## TYPICAL INDUSTRIAL SITES

This site, about 3 miles west of *Stephensport, Ky.*, is referred to locally as "Holt Bottoms." About 1000 acres, it is served by a main line of the L & N adjacent to site. Highway and airport are nearby and full utilities are available.



About 14 miles west of *Paducah, Ky.*, this site is 289 acres, and is served by Illinois Central, L & N, and Burlington.

river West of Pittsburgh and there is a branch which runs from Cleveland down to the vicinity of Wheeling. Another branch from Columbus, Ohio, to Charleston, West Virginia, crosses the river near Gallipolis. Other NYC tracks serve Cincinnati, Louisville, Evansville and Cairo.

The extensive plant location services of the railroad are directed by Otto Pongrace, former official of the Ford Motor Company. In addition to his headquarters office in New York, Pongrace's team includes specialists in a number of branch offices along and near the river.

and roundhouse facility. The main building is about 100 x 185 feet and the property includes 10 acres of land.

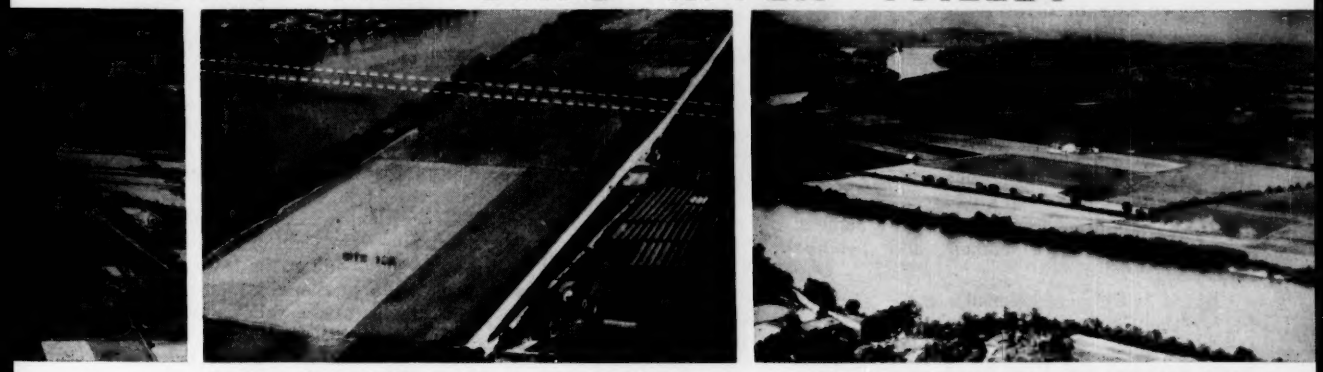
The interest of the Chesapeake and Ohio Railroad in the valley is evidenced by the fact that the line has recently relocated its headquarters office to Huntington. Sitting in his office overlooking the river, development director Wayne Fletcher told ID's editor of some of the sites available along the system.

C & O virtually parallels the river from Huntington through Ashland to Portsmouth and west to Cincinnati. A branch extends to Louisville. Many

anticipate extensive industrial development on this stretch of the river along with the stretch between Point Pleasant and Huntington in the next 10 years. Probably all of the ten C & O sites listed previously will be taken up during this time."

At his Louisville headquarters office Louisville and Nashville railroad development director Ray Bisha told ID's editor "The Ohio definitely has not lost any of its appeal." But he expressed the opinion that the next phase of development along the river may be different from that which has been witnessed in the past.

# ALONG THE OHIO RIVER VALLEY



Located at *Hannibal, Ohio,* on both sides of a new bridge being planned, are two sites. Both sites are about 75 acres and utilities are available. Rail facilities will be extended where necessary. Photos from Pennsylvania Railroad which will serve site.

McCoy Farm—134 acres 14 miles south of *Parkersburg, West Virginia,* on the river. Served by the B & O Railroad, it fronts 4,100 feet on the river. The site is presently under option to the Monongahela Power Company.

Just to mention a few of the sites being given special attention at the moment by New York Central, there is a 1,200-acre location at America, Illinois, about 9 miles north of Cairo. It is reported that this spot very nearly became the site of one of the huge aluminum plants which went farther upstream. Another important NYC site is a tract of 1000 acres 2 miles southeast of Harrison, Ohio, which is about 15 miles from Cairo. This site is not directly on the river. Another choice property is a 100 acre tract 5 miles northeast of Evansville in Vanderburgh County. New York Central can also provide you with data on a 1000 acre site at Point Pleasant, West Virginia. While this site requires flood protection it is near an 8 inch natural gas line and is within 4 miles of a 132,000 kv transmission line of Appalachian Power.

Between Pomeroy and Gallipolis, Ohio, at Hobson Junction, New York Central has for sale a former car shop

available properties are on the main line between Chicago, Washington, Richmond, and Newport News.

One of the most attractive locations for a specialized use is a 430 acre site at Siloam, Kentucky just across the river from Portsmouth. This site adjoins the Columbia Hydrocrabon Corporation plant which has a capacity for producing 350 million pounds of ethylene per year. Officials are hopeful that this is the beginning of a major chemical complex. Among several dozen properties earmarked by C & O are sites at Vanceburg, Dover, and Mayville, Kentucky, and at Fernald, Ohio, near Cincinnati. For each site C & O has aerial survey charts showing elevations, acreage, ownership and location with respect to major physical facilities.

In a recent study of site availability on the river, C & O industrial analyst Wilbur Zelinski reported "The river valley between Portsmouth and Cincinnati is essentially undeveloped. I

Bisha pointed out that basic industries have now located up and down the stream and this will now be followed by the process of integration. He refers to the chemical complex at Calvert City as an example of things to come on other stretches of the river.

L & N trackage parallels the river from Cincinnati to Louisville and from there to Owensboro and Evansville. Branches touch the river at Maysville, Kentucky; Shawnee Town, Illinois and Paducah, Kentucky. Among areas L & N believes to be particularly promising is a spot known as Holt Bottoms which is about 3 miles west of Stephensport and 4 miles upstream from Cloverport, Kentucky. This is about 45 miles east of Owensville. Here L & N has earmarked a 1000 acre site which is accessible to transmission lines of Louisville Gas and Electric and Kentucky Utilities Company and to a 26 inch natural gas line of Texas Gas Transmission.

The Pennsylvania Railroad, with

**Ray E. Bisha**
*Director of Industrial Development, Louisville and Nashville Railroad*

**George W. Hubley**
*Commissioner, Kentucky Dept. of Economic Development*

plant location headquarters in Philadelphia, has a number of regional offices which can supply data on the Ohio Valley area. Pittsburgh is, of course, on the Pennsylvania main line and there are branches extending to Wheeling, Marietta, Cincinnati, and Louisville.

Clayton A. Gill, development specialist for the Pittsburgh region, is enthusiastic about a series of sites between Hannibal and Marietta. A total of 11 locations have been identified on a relatively undeveloped stretch which begin a few miles below the huge Ormet installation and extends down to the outskirts of Marietta.

The Baltimore and Ohio parallels the river most of the way from Pittsburgh to Parkersburg and then down to Ravenswood and on to Huntington. This is obviously choice trackage along the part of the river that has developed the most. It is not surprising that the B & O development department, headed by Gayle Arnold, mentioned earlier, has been interested in the Ohio Valley for a long while.

Fielding Lewis, B & O development specialist for the Pittsburgh area, confirms this view: "Many years ago our staff recognized the power generating potential of the valley because we had three prime requisites: coal, water, and plant sites. We also know that water, rock salt and electric power added up to a plant that would produce chlorine, caustic soda and hydrogen. With an abundance of hydrogen, ammonia could be easily and economically produced and this has proven to be so.

"The outstanding commodities being produced in the Valley are: aluminum, metal alloys, heavy chemicals, miscellaneous fibers and plastics, silicones and isocyanates. While there are many other products, perhaps the last three named offer the greatest growth potential.

"Obviously all of the natural resources occurring in the Ohio River Valley are in quantities greater than can be consumed in generations. The fundamentals and economics of sound production in the Valley will remain constant.

"Further, on the average I do not believe that the industries listed above are using as much as 10 percent of the actual plant site areas they have acquired. They are undergoing constant expansion and this process will continue for many, many years. I would not predict, simply because only 10 percent of the area is being utilized, that we should expect 10 times this much employment in the future. However, I would predict the investment in plants along the river will increase at least 10 times in the years ahead."

You get the same optimistic view from other prominent railroad development teams operating in the valley. All of them have comprehensive site data and can give you professional aid. Among those you should consider "must" contacts are:

Norfolk and Western Railway, Roanoke, Virginia. L. E. Ward, Industrial and Agricultural Manager.

Southern Railroad System, Washington, D. C., F. Clifton Toal, Assistant Vice President.

Illinois Central Railroad, Chicago, Illinois. J. S. Frost, General Industrial Agent.

Chicago and Eastern Illinois Railroad, Chicago, Illinois. W. H. Rogers, Director of Industrial Development.

### They call it "Voltage Valley"

George Hubley, Commissioner of the Kentucky Department of Economic Development, is one of the Ohio Valley's most ardent boosters. A former executive director of the valley's chief promotion agency, he paused at the state capital in Frankfort to give ID's editor some facts:

"A little less than five years ago, in a speech titled *The American Ruhr, Past, Present and Future,* I compared the great undevelopment potential of the Ohio River Valley to the industrial complex of the Ruhr Valley of Europe, the traditional center of industrial might of the world. The phrase "Ruhr of America" seems to have caught on; and today the Ohio Valley is often re-

## STREAM FLOW ON THE OHIO

| | Station | Pool Stage | Flood Stage | Max. Stage | Min. Flow 1,000 C.F.S. | Min. Flow 1,000 C.F.S. |
|---|---|---|---|---|---|---|
| | 1 Pittsburgh | 16.0 | 25.0 | 46.0 | 2.0 | 574.0 |
| Dam 28 | Huntington | 15.4 | 50.0 | 69.6 | 3.2 | 654.0 |
| | 3 Cincinnati | 11.5 | 52.0 | 80.0 | * | 894.0 |
| Dam 41 | Louisville | 17.0 | U.G. 28.0 | 57.15 | 4.1 | 1,110.0 |
| | | | L.G. 55.0 | 85.4 | | |
| | 5 Evansville | 8.8 | 42.0 | 53.75 | * | 1,410.0 |
| | 6 Paducah | 15.7 | 39.0 | 60.6 | | |
| Dam 52 | Metropolis | 18.7 | 37.0 | 62.3 | 20.6 | 1,780.0 |

* Minimum flow not determined.
Source: U. S. Army Engineers.

# AT SILOAM, KENTUCKY

# 430-acre Ohio River Industrial Site

The Ohio River Valley is one of the fastest growing industrial areas of our country. For 150 miles—between Huntington, W. Va., and Cincinnati—Chesapeake and Ohio Railway parallels the busy Ohio River.

Already, giant steel mills, new and expanding chemical plants and other varied manufacturers call this valley their home. But many level, flood-free river front industrial sites are still available, some owned by Chessie's railroad.

Typical is this 430-acre site at Siloam, Kentucky.

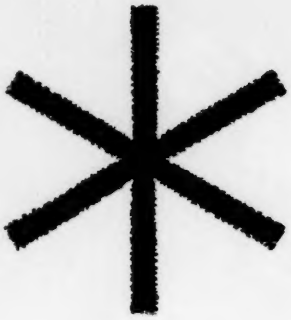
**LOCATION:** 4 miles east of Portsmouth, Ohio, at the junction of C & O main lines—West to Cincinnati and Chicago, East to West Virginia and Virginia, North to Ohio, Michigan and Canada. **TRANSPORTATION:** Chesapeake and Ohio; U.S. highway No. 23; Ohio River. **UTILITIES:** Kentucky Power Co., Columbia Gas of Kentucky, Inc. Water from South Shore Water Works with surplus capacity of 300,000 gallons. **TOPOGRAPHY:** Just enough slope for proper drainage. **LABOR:** Estimated surplus of 2,100 men and 6,500 women in the area.

Complete Industrial Surveys of this and other Ohio River sites are available to interested companies. Inquiries are handled in complete confidence and without obligation. Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, W. Va., Tel: Jackson 3-8573

## Chesapeake and Ohio Railway

**SERVING: Virginia • West Virginia • Kentucky • Ohio**
**Indiana • Michigan • Southern Ontario**

*To an astronomer...*
*this means a fixed star*



*To a chemist...this means*
*an asymmetric carbon atom*

*...But to industries seeking new locations, this means plant sites in a growing industrial area*

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***SERVING THE BIG RIVER REGION***

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ferred to in this way, and even as a "super Ruhr"—and with justification. For today, it produces more chemicals than the Ruhr Valley, three times as much steel, more than three times as much coal.

"Since 1950, industrial expansion along the Ohio has swollen like a spring flood. Our river is the artery of trade for a fast-growing industrial empire of steel, aluminum, chemicals, oil refining, atomic energy, electric power, and diverse other important manufacturing.

"New and expanded plants located on the Ohio and its tributaries in the last seven or eight years are estimated to represent a capital investment as high as 13 billions of dollars. Roughly two-thirds of this multi-billion dollar total has been invested in three states: Pennsylvania, Ohio, and our own Kentucky. Roughly two-thirds has been invested in four major industries: atomic energy production, electric generating plants, iron and steel manufactures, and chemicals. These are the nation's heavy industries, basic to a stable economy. They guarantee a continuing, large and healthy expansion for the Ohio Valley region.

"The bases of this spectacular growth are God-given: our rivers and our coal fields. These natural resources, when coupled with excellent rail and highway networks, make the Ohio Valley an ideal location for industry. Deposits of coal, which still remains the greatest sources of energy, lie all along the Ohio River and its tributaries. Coal is vital in the manufacture of steel and low-cost electric power. In turn, low-cost electric power is vital to industries which require enormous supplies of energy, as in aluminum and uranium processing.

"The Ohio River system also provides abundant supplies of water for processing manufactures. To make one ton of steel takes 70 tons of water. To refine one barrel of oil takes 18 barrels of water. The new generating plant at Clifty Creek, Indiana, uses 1½ billion gallons of water a day—more than New York City uses for all purposes. In addition, the Ohio River is constantly replenishing the ground water of this region. An underground pool extends the length of the river; and as far as surveys can determine, the supply of ground water in the region is almost limitless. This is a factor of great importance to the many industries which require better-quality and cooler water in their processing than surface sources can provide.

"Low-cost electric power has brought the aluminum industry into the Valley, and located three mammoth atomic energy installations there since 1950: the gaseous diffusion plant near Portsmouth, Ohio; another at Paducah, Kentucky; and an ore-processing plant near Cincinnati, Ohio. These three plants represent a capital investment of $1.6 billion dollars. Together they consume more than 50 billion kilowatt-hours a year, or about one-tenth of the total energy used in the whole United States!

"Four of the largest generating plants in the world were built to serve the atomic energy facilities at Portsmouth and Paducah—one at Paducah by a federal agency and the other three by private capital at Joppa, Ill., Madison, Ind., and Gallipolis, Ohio. These four generating stations deliver about 35 billion kilowatt hours of electric energy a year, well over the amount of electricity sold by electric utilities to commercial and industrial users in the United States in the month of December, 1958. The two plants built to serve Portsmouth are the last word in steam power generation. They use low-priced, river-borne coal, and supply electric power to the Atomic Energy Commission for less than 4 mills per kilowatt hour. Perhaps some day atomic power may supplant coal as the principal source of energy, but for the time being nuclear energy production has spurred the coal industry in the Ohio Valley. The Clifty Creek and Kyger Creek Ohio generating plants use 7.5 million tons a year.

"Much the same factors that led the Atomic Energy Commission to choose plants sites in the Ohio Valley have brought various large chemical enterprises, aluminum and steel production into the region. The flood of new investment in heavy industry is augmented by countless smaller capital investments in diversified industry: from Geiger counters and guided missiles to jet aircraft and machine tools; from electric typewriters and farm machinery to automobile tires and home appliances. Nearness to markets, cheap water transportation, and low-cost power are the keys to the Valley's present prosperity and future development."

The chart accompanying this report shows the extent to which the river


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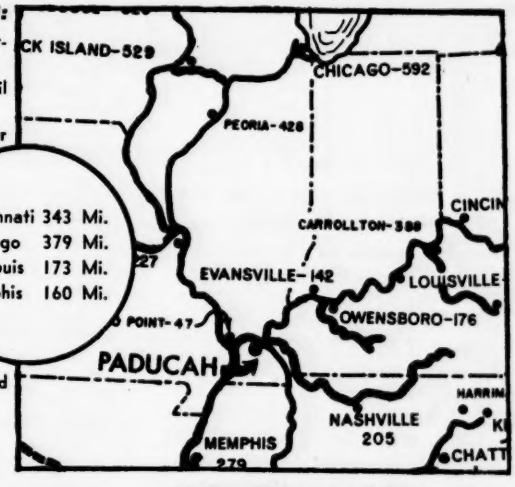
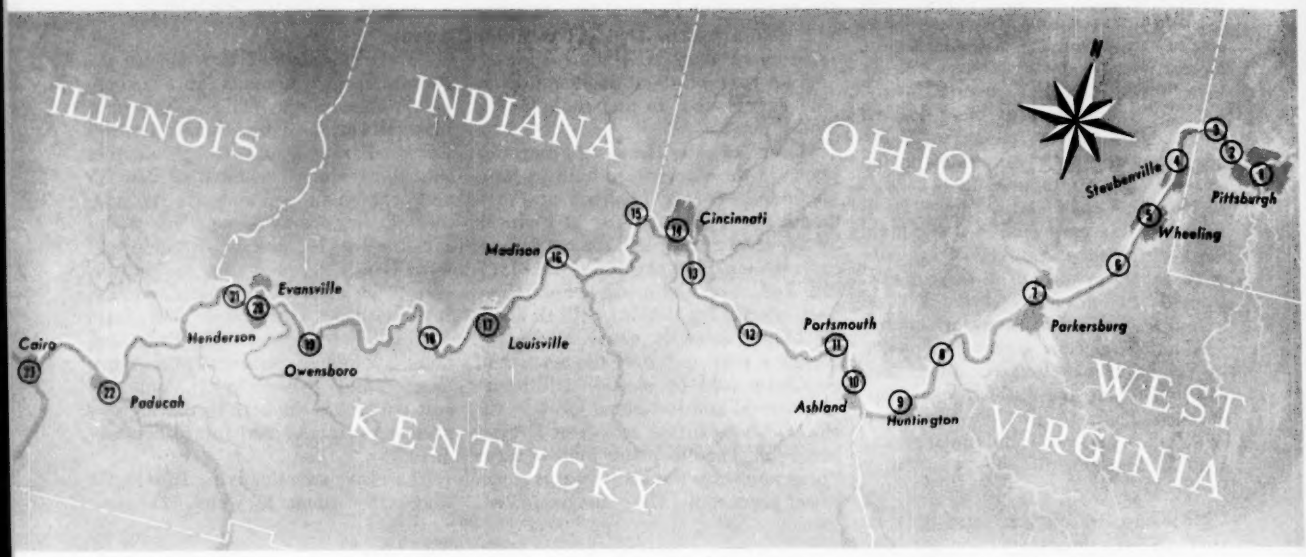
b. Economical river and rail transportation
c. An abundance of water
d. Lowest cost coal
e. Largest concentration of power in the U.S.
f. A growing chemical industry
g. Abundant easily trained labor
h. A medical center
i. Excellent schools
j. Fine churches
k. Friendly government
l. Mid-America's newest vacation land




***Write, Phone or Wire***
**Paducah Chamber of Commerce**
**for complete information**

# TYPICAL DEVELOPMENTS ALONG THE BOOMING OHIO




Since World War II, more than 2500 major plants are reported to have been located in the Ohio Valley. The map above by no means indicates all of the important installations, but gives some idea of the variety and scope of industry the valley has attracted.

**The numbers on the map refer to the *general* location of groups of plants along the Ohio River as indexed below.**

1. Manufacturers Light and Heat Co. (Electricity and Gas)
   Peoples Natural Gas Co. (Fuel Gas)
   Equitable Gas Co. (Fuel Gas)
   Alcoa (Aluminum)
   H. J. Heinz Co. (Food Products)
   Duquesne Brewing Co. (Beer)
   Continental Can Co. (Packaging)
   Baltimore and Ohio RR (Rail service)
   Harbison-Walker Refractories Corp.
   Westinghouse Air Brake Co.
   Atomic Energy Commission (Reactor research)
2. Pittsburgh and Lake Erie RR (Rail Facilities)
   Bethlehem Steel Company
   National Supply Co. (Tube mill)
   Duquesne Light Co. (Electric power)
   Pennsylvania RR Co. (Rail facilities)
3. Koppers Co. (Phathallic and Anhydride Div.)
   H. K. Porter Co. (Vulcan-Kidd Steel Div.)
   Duquesne Light Co. (Nuclear power plant)
   Rem-Cru Titanium Inc.
4. Ohio Edison Co. (Electric Power)
   Titanium Metals Corp.
   Weirton Steel Co.
   Koppers Co.
   Wheeling Steel Corp.
5. Ohio Ferro Alloys Corp.
   Ohio Power Co.
   Cleveland Electric Illuminating Co. (Power Plant)
   Wheeling Steel Corp.
6. Allied Chemical and Dye Corp. (Chemicals)
   Wheeling Electric Co.
   Pittsburgh Consolidated Coal Co. (Coke, by-products)
   Powhatan Mining Co. (Coal Processing)
   American Gas and Electric Co. (Electric power)
   Columbia Southern Chemicals Co., Sub. of Pittsburgh Plate Glass Co. (Ammonia, Chloride)
   Ormet Corp.
   Union Carbide Corp. (Silicones)
7. Monongahela Power Co. (Electric power)
   Electro Metallurgical Co.—Union Carbide— (Steel Alloys)
   Kaiser Foil Plant
   Borg-Warner (Thermoplastic resins)
   Carborundum Co. (Zirconium, Hafnium)
   E. I. DuPont de Nemours & Co. (Plastic resins)
8. Kaiser Aluminum & Chemical Corp. (Aluminum and aluminum products)
   American Gas and Electric Co. (Philip Sporn Gen. Plant)
   Vanadium Corp. of America (Ferro Alloys)
   Ohio Valley Electric Corp. (Kyger Creek Plant)
   Celanese Corp. of America (Chemicals)
9. Inco Corp. (International Nickel)
   H. K. Porter Co.
   Chesapeake and Ohio RR (Headquarters)
10. Montecatini General Mining and Chemical Corp. (Petrochemicals)
    Columbia Hydrocarbon Corp. (Fractionation plant)
    Allied Chemical Corp.—Semet Solvay Div.
    A. C. Lawrence Leather Co.
    Kentucky Power Co.
    Allied Chemical and Dye Corp. (Fertilizer)
    Armco Steel Corp.
11. Ashland Oil & Refining Co. (Petroleum products)
    Atomic Energy Commission
12. Dayton Power and Light Co.
    Carnation Milk Co.
13. Cincinnati Gas and Electric Co.
14. Acme-Newport Steel Co.
    Southern Railway System (Rail facilities)
    Cincinnati Suburban Bell Telephone Co. (Communications facilities)
    Atomic Energy Commission
15. Indiana & Michigan Electric Co.
16. Indiana-Kentucky Electric Corp. (Clifty Creek)
17. Louisville & Nashville RR (Rail facilities)
    General Electric Co. (Appliances)
    American Radiator & Standard Sanitary Corp.
    Ford Motor Co. (Ford and Edsel plant)
    Public Service Co'. of Indiana (Electric power)
    Louisville Gas & Electric Co. (Electric power)
    Philip Morris & Co. (Cigarettes)
18. Olin Mathieson Chemical Corp. (Doe Run Plant)
19. Glenmore Distilleries
    Green River Steel Corp.
    General Electric Co. (Radio tubes)
    Alcoa (Aluminum)
    Southern Industrial Gas Co. (Electric Power)
20. Whirlpool Corp. (Appliances)
    Spencer Chemical Corp.
21. Nashville Coal Co. (Coal Processing)
22. National Carbide Co. (Calcium carbide, chemical acetylene)
    Cumberland Chemical Corp.
    Atomic Energy Commission
    Shawnee Steam Plant (TVA) Electric Power
    Union Carbide Nuclear Co.
    Electric Energy, Inc. (Electric power)
    Allied Chemical & Dye Corp.
23. E. L. Bruce Co. (Hardwood flooring)

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Indiana is one of only 16 states still living within their income (as against 47 in 1946). Indiana has *none* of the $60 billion state and local debt (which was only $16 billion in 1946). Since Indiana's constitution *forbids* bonded state debt, our new industries don't pay yesterday's bills!

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National *manufacturing* center, *market* center, *sales* center, *shipping* center, *distribution* center, *warehousing* center, *population* center!

## UTILITY-OWNED ELECTRIC POWER GENERATING STATIONS ON THE OHIO RIVER

(Steam plants unless otherwise specified)

| *Plant* | *Company* | *Location* | *Kilowatt Capacity* | *KW Capacity Under Constr.* |
|---|---|---|---|---|
| Reed | Duquesne Light Co. | Brunot Island, Pa. | 180,000 | |
| Brunot Island | Duquesne Light Co. | Brunot Island, Pa. | 101,200 | |
| Phillips | Duquesne Light Co. | South Heights, Pa. | 390,000 | |
| Shippingport* | Duquesne Light Co. | Shippingport, Pa. | 100,000 | |
| Stratton | Ohio Edison Co. | Stratton, Ohio | 175,000 | 525,000 |
| Toronto | Ohio Edison Co. | Toronto, Ohio | 307,000 | |
| Tidd | Ohio Power Co. (AEP) | Brilliant, Ohio | 220,000 | |
| Windsor (jointly owned) | Ohio Power Co. (AEP) | Power, W. Va. | 150,000 | |
| | West Penn Power Co. | Power, W. Va. | 150,000 | |
| R. E. Burger | Ohio Edison Co. | Dilles Bottom, Ohio | 513,500 | |
| Kammer (jointly owned) | Ohio Power Co. (AEP) | Captina, W. Va. | 225,000 | |
| | Ormet Corporation | Captina, W. Va. | 450,000 | |
| Willow Island | Monongahela Power Co. | St. Marys, W. Va. | 50,000 | |
| Parkersburg | Monongahela Power Co. | Parkersburg, W. Va. | 9,000 | |
| Philip Sporn (jointly owned) | Appalachian Power Co. (AEP) | Graham Station, W. Va. | 300,000 | |
| | Ohio Power Co. (AEP) | Graham Station, W. Va. | 300,000 | 450,000 |
| Kyger Creek | Ohio Valley Elec. Corp. | Cheshire, Ohio | 1,075,000 | |
| Walter C. Beckjord | Cincinnati Gas & Elec. | New Richmond, Ohio | 490,000 | |
| West End | Cincinnati Gas & Elec. | Cincinnati, Ohio | 490,000 | |
| Miami Fort | Cincinnati Gas & Elec. | Columbia Park, Ohio | 356,000 | 156,250 |
| Tanners Creek | Ind. & Mich. Elec. Co. (AEP) | Lawrenceburg, Ind. | 525,000 | |
| Clifty Creek | Ind.-Ky. Elec. Corp. (OVEC) | Madison, Ind. | 1,290,000 | |
| Ohio Falls *Hydro* | Louisville Gas & Elec. | Ohio Falls, Ind. | 80,000 | |
| Waterside | Louisville Gas & Elec. | Louisville, Ky. | 75,000 | |
| Canal Street | Louisville Gas & Elec. | Louisville, Ky. | 50,000 | |
| Paddy's Run | Louisville Gas & Elec. | Louisville, Ky. | 300,000 | |
| Cane Run | Louisville Gas & Elec. | Louisville, Ky. | 325,000 | |
| New Albany | Public Serv. Co. of Ind. | New Albany, Ind. | 150,000 | 300,000 |
| Culley | So. Ind. Gas & Elec. Co. | Yankeetown, Ind. | 40,000 | |
| Ohio River | So. Ind. Gas & Elec. Co. | Evansville | 112,500 | |
| Division St. | So. Ind. Gas & Elec. Co. | Evansville | 7,500 | |
| Owensboro | Municipal | Owensboro, Ky. | 51,000 | |
| Joppa | Electric Energy, Inc. | Joppa, Ill. | 937,500 | |
| Shawnee | Tennessee Valley Auth. | Paducah, Ky. | 1,350,000 | |
| | | TOTALS..... | 11,325,200 | 1,431,250 |

*—Atomic plant
AEP—subsidiary of American Electric Power Co.
OVEC—subsidiary of Ohio Valley Electric Corp.

has attracted major electric generating stations. It is clear that the industrial growth of the area is being promoted by some of the nation's strongest utility firms.

American Gas and Electric, through its subsidiaries, is the dominant force in the upper valley area. AG&E serves the area from East Liverpool down past Wheeling to Natrium, West Virginia. Other segments of the company's system reach the river below Parkersburg and extend to Huntington, Ashland, and Portsmouth.

Plant location specialist for AG&E is Lee Davis, in New York. He is ably assisted by development professionals in the operating subsidiaries. For example, Dorman Miller is the key man at Appalachian Power, headquartered in Roanoke. You can also find help at Kentucky Power, Ohio Power, Wheeling Electric, and Indiana and Michigan Electric.

Another active group is Monongahela Power Company, serving the area around Marietta and Parkersburg. Headquartered in Fairmount, West Virginia, this firm has a development department directed by Donald E. Hollen.

In addition to extensive site acquisition and protection work, Monongahela conducts geological studies of mineral resources of the area. Geologist Herschel C. Ice, a member of the Monongahela area development staff, has recently completed a new study of rock salt reserves in the Valley area, in which he states:

"In 1936 Columbian Carbon Company drilled a deep gas test well near West Union in Doddridge County. This well first showed, definitely, that rock salt deposits were present in West Virginia. Besides coal, oil, and gas, another valuable mineral had been discovered.

"Since 1936 enough widely-spaced wells have been drilled into these salt beds in West Virginia to indicate with strong probability that they are continuous, with thicknesses in excess of 100 feet, throughout most of the northwestern part of the state. As early as 1943 West Virginia Geological Surveys estimated that salt in beds thick enough for commercial development probably occurs under an area of 2400 square miles or more in northwestern West Virginia. (See attached map for probable salt area).

"It is known to underlie, in thick beds, practically all the northern part of the Ohio River Valley. It is the raw material, reached by a series of deep wells, from which artificial brines are made in place and pumped back out for use by the chemical industries at Natrium and Round Bottom, near Moundsville. Recent drilling indicates that the salt bed extends south along the Ohio River as far as Bens Run in Tyler County, West Virginia, at least. Beyond this point there have been no tests made at present.

"The total area believed to be underlain by rock salt in the Ohio Valley region of West Virginia alone is over 1600 square miles. By calculating that a 100 foot layer of fairly pure salt con-

tains about 296,000 tons per acre, or about 188,000,000 tons per square mile, the total reserve would be about 300 billion tons—a fantastic figure.

"Depths to the rock salt, estimated or actual, along the Ohio River starting at Chester, West Virginia, and proceeding south, are as follows:

Chester, Hancock County, W. Va.—4875 ft. (Estimated).

Arroyo, Hancock County, W. Va.—4820 ft. (Estimated).

Wellsburg, Brook County, W. Va.—5940 ft. (Estimated).

Wheeling, Ohio County, W. Va.—6355 ft. (Estimated).

Round Bottom (near Moundsville), Marshall County, W. Va.—6400 ft. (Actual).

Natrium, Marshall County, W. Va.—6724 ft. (Actual).

Bens Run, Tyler County, W. Va.—6293 ft. (Actual).

Belmont, Pleasants County, W. Va.—5700 ft. (Estimated).

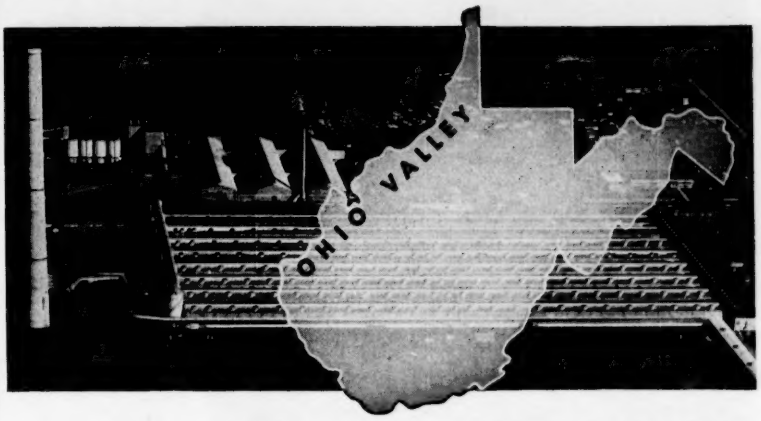
"It can be said that a great, if not the greatest, potential resource, one that will contribute most to the industrial and chemical development of the Ohio Valley in future years, will be its rock salt deposits. A good start has already been made on this development. Here underlying the Valley and nearby areas is a bed of quite pure rock salt, so thick and so continuous, that any exact figures on reserve tonnages would be of no economic interest, they are so large.

"In concluding, the most favorable part of West Virginia for drilling of wells to recover the salt is along the Ohio River from Hancock County to Pleasants County, since the deposits occur at the least depths here and there are also added advantages of water transportation and an abundant water supply as well as nearness to the eastern and midwestern markets. The area is a most favorable place for the location of a prospective industrial plant using salt as their basic raw material."

Farther down the river, you'll find the red carpet out for you at Southern Indiana Gas and Electric Company, in Evansville. SIG&E serves the North bank of the river from Canneltown on the East to Mount Vernon to the West. This service area includes some 2,250 square miles, with about 75 communities.

Across the river, the company to see is Kentucky Utilities, with central office in Lexington. KU lines fan out to touch the river at Maysville, Carrollton, Owensboro, Henderson, Uniontown, and Paducah. The man you want to contact is D. E. Buchanan, Director of Industrial Development.


INDUSTRY'S ON THE INCREASE

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West Virginia labor is another major asset when considered on three principal counts . . . available supply, quality and wage levels. The bulk of West Virginia's working force are farmers, miners, mechanics, woodsmen . . . men who are accustomed to hard work. A large pool of women workers are also available for manufacturing employment.

*Confidential information is available to companies interested in investigating WEST VIRGINIA'S industrial opportunities . . . write or phone . . . Don Crislip, Executive Director, West Virginia Industrial and Publicity Commission, State Capitol, Room OVID, Charleston 5, West Virginia.*

WEST VIRGINIA

*The Businessman's State*

Discussing expanded natural gas service in the valley are Glover Cary (left), Manager, Industrial Development, and J. W. Carneal, Director of Gas Sales and Industrial Development for the Texas Gas Transmission Company, Owensboro, Kentucky.

At the end of 1958, KU served 231,000 customers. Kilowatt hours sold totaled 1,985,678,000. Its system capacity at the beginning of 1959 was 425,540 kilowatts, 80 per cent of which is in post-war generating stations. Nearing completion is a 100,000 kilowatt addition to its Green River generating station. The unit is scheduled for commercial operation in July, 1959.

In addition to the Green River station near Central City in western Kentucky, the company has three others, the Tyrone station in Woodford County, its new E. W. Brown station on Herrington Lake in Mercer County and its Four Mile Plant near Pineville in southeastern Kentucky.

Interconnections between these plants permit the most economical production and distribution of power, and their geographic location allows new units to be installed at points nearest the centers of KU's increasing loads. Major factor in maintaining the company's competitive rate structure is its proximity to unlimited supplies of low cost coal.

KU is part of the group of five companies which built and now operate the Electric Energy, Incorporated, plant at Joppa, Ill., serving the Atomic Energy Commission installation at Paducah, and one of the 15 companies making up the Ohio Valley Electric Corporation whose two plants, Clifty Creek, Ind., and Kyger Creek, Ohio, serve the AEC project near Portsmouth, Ohio.

Additionally, in 1958, KU joined more than 50 other investor owned utilities in the group known as High Temperature Reactor Development Associates, Inc., an organization that will finance construction of a high temperature, gas cooled experimental nuclear power plant.

## Main Line For Natural Gas

Many of the utilities mentioned previously serve in the dual role of suppliers of both electric power and natural gas. Regardless of the local distribution picture, their capacity to serve new industries along the Ohio is based on the overall gas transmission situation.

In this connection it is significant that the Ohio Valley lies between the major sources of gas in the Southwest and the population centers of the East. The result is that many of the nation's largest pipelines cross the Valley.

For example, the main lines of Texas Gas Transmission Corporation run from Louisiana and Texas into Western Kentucky and along the Ohio River to customer territories in Southern Indiana and Ohio. Tennessee Gas Transmission has four lines which spread out to slice the Valley area in the Huntington-Portsmouth sector. Gulf Interstate Gas crosses the same section. Texas Eastern traverses the area just to the North.

In the upper Valley area, Texas Eastern crosses below Moundsville, while Tennessee Gas passes just below East Liverpool. Expansion programs will soon bring important gas supplies to still other parts of the Valley.

In the Owensboro headquarters offices of Texas Gas, official J. W. "Bill" Carneal told ID's editor of a $25 million expansion program being completed this year and plans for more such growth in the immediate future.

Carneal made it clear, too, that Texas Gas is deeply interested in the industrial development of the area it serves. There's a department headed by Glover Cary, already engaged in extensive site work.

Carneal emphasizes that his firm is ready to supply whatever gas may be needed by industrial customers. However, he points out that for large users it is necessary for gas suppliers to get FPC approval. This may not be anything more than a formality, but to avoid delays it is wise to contact the gas firm as early in your site planning process as possible.

You'll find the same type of cooperation at the offices of other transmission lines and distributors serving the area. Columbia Gas, for example, has made comprehensive studies of chemical opportunities. This firm, through subsidiaries, serves such spots as Ashland, Huntington, Gallipolis, Wheeling, and Steubenville. Many other areas are served wholesale.

Columbia Hydrocarbon, at Portsmouth, is an affiliated unit, and Columbia Gas has had engineering studies made to explore opportunities for an ethylene plant on an adjoining site. Envisioned is a chemical complex with products pipeline linking the Portsmouth site with a United Fuel Gas extraction plant below Ashland.

Another firm very much in the development picture is Western Kentucky Gas on the lower stretches of the river. WKG acts primarily as a distributor, receiving supplies from Texas Gas Transmission.

No matter what part of the Valley you find to be of interest in your site plans, you'll find gas supplies not far away. The heavy concentration of gas-consuming industries already in existence has seen to that.

But you will, of course, find that the prices vary according to location. Generally, prices increase as you get farther upstream, away from the sources in Texas and Louisiana.

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Just as a general yardstick you can estimate that gas around Paducah or Calvert City will run four cents per million cubic feet less than prices at Evansville or Owensboro. And the prices in the latter cities will be 3 cents lower than around Louisville and Cincinnati.

Well, so much for the background!

We have a lot of information about the Valley. We think we know what makes it tick industrially. We know it has a great industrial future. We know it's going to continue to grow.

But what kind of an area is it in which to live and work? What does the Valley look like and feel like? How about those all-important intangibles?

It's to get some answers to these questions that we're going to take a flying tour along the River, visiting some of the towns and talking to some of the people. Most of all, we're going to look closely at the whole Valley, from low altitude. We're going to look down the smokestacks, and up and down the streets.

Back at Allegheny County Airport in Pittsburgh we get our instructions from the tower and take off. The big Alcoa hangar flashes by and we're out on a Northwest heading.

In a couple of minutes we have a bird's-eye view of the Golden Triangle where the Ohio begins. In one panoramic view we have proof that a city can reverse its course and change its entire outlook for the future.

But in this report we're not going to dwell on the Pittsburgh area or the outstanding work of the Regional Industrial Development Corporation. We're not going to describe the sprawling U. S. Steel mill we toured yesterday. The Pittsburgh story is a big one deserving its own detailed survey for some later issue.

Continuing northwest, we pick up the new Greater Pittsburgh Airport on our left, cut across Aliquippa and past the mouth of the Beaver River in the Beaver-Rochester area. We cross the Ohio line near East Liverpool and then we are over a valley loaded with industry and development as far as we can see to the south. The procession of power plants, industries, and cities extends past New Cumberland, Weirton, Steubenville and Wellsburg.

Our first landing, strictly for sightseeing, is at the Wheeling-Ohio County Airport on the West Virginia side of the river below Windsor Heights. The tower clears us to land to the southeast across a gorge and we quickly find that this is a typical West Virginia airport sliced off the top of a hill. But we find excellent runways and a small but modern terminal building.

Touring the Wheeling area we are impressed with the industrial "muscles" of the section and by the precipitous terrain. We see community problems typical of older industrial areas and we meet civic leaders who are determined to do in this region on a small scale what they have seen in Pittsburgh on a grand scale.

Commenting on the industrial growth in the Wheeling area, Robert M. Rownd says "All of these additions and expansions in our area have created many problems as to parking, arterial highway congestion, schools, social life, and housing and government. In order to meet problems we organized a Wheeling Area Conference on Community Development through participation of the civic and business leaders of the City of Wheeling for actual work. Very much has been accomplished on the subjects of air pollution control, municipal parking garage, traffic improvements, stimulation of arterial

**WILDERNESS ROAD:** *175 years later*

In 1785, the trip across the Wilderness Road — from the Cumberland Gap to Danville—took about two months by pack horse. From Danville to Paducah was virtually untraveled wilderness. The first settlers in Western Kentucky brought with them seeds to plant corn and tobacco in truly new and fertile soil.

Today's new settlers can make the trip from New York, Chicago, Pittsburgh, Detroit, or Cleveland, by plane, in several hours at most. They bring the seeds of new growth — blueprints from which to build modern plants and factories.

The major factors influencing location of an industry, in any given area, are adequate supply of suitable labor, community interest and cooperation, good transportation facilities via water, rail and highway, good living conditions, and an ample, dependable gas and electric supply. Since *1948, 119* industries have located in Western Kentucky, which certainly is indicative of a most favorable "industrial climate."

Economical service of utilities, such as Western Kentucky Gas Company, have contributed in a dynamic way to this remarkable industrial growth. Western Kentucky Gas Company is proud to have served South Central and Western Kentucky — both industry and home — for more than 25 years . . . proud, too, that we ourselves have grown, kept pace with, and led in the transformation of the Wilderness Road.

WESTERN KENTUCKY GAS COMPANY
GENERAL OFFICES OWENSBORO, KENTUCKY

highway building, housing, and practically all other phases of civic improvement."

We find that besides the Ohio Valley Board of Trade in Wheeling efforts are coordinated in this section by the Upper Ohio Valley Development Council, Inc., managed by Walker L. Myers, Jr., in Steubenville.

In the air again, we follow the river south past the big Wheeling Steel mills and over the big AG&E generating station. In a bend of the river below Clarington we come upon the huge Ormet plant and a little further downstream there is the big Union Carbide installation.

**Don Crislip**

*Director, W. Virginia Industrial and Publicity Commission*

Sparking development of Parkersburg, West Virginia are (left to right) Mulford F. Smith, Monongahela Power Co., Harry H. Esbenshade, Jr., Tri-State Roofing Co., Michael Cassady, Managing Dir. of the Parkersburg Chamber of Commerce, and Douglass Adams, Exec. V.P. of the Parkersburg National Bank.

## Into Parkersburg

We begin picking up Parkersburg FAA radio as we find miles of relatively undeveloped river front offering what appears to be choice sites between Hannibal and Marietta. Marietta strikes us as a neat town nestled in the valley where the Muskingum River empties into the Ohio. Just across the river is the well-developed Wood County Airport but we decide to go into an unpaved strip close to the downtown section of Parkersburg. Landing, we find an unusually convenient arrangement where flying businessmen can park their aircraft next door to a motel, and there is a Howard Johnson restaurant half a block away.

Parkersburg strikes us as a wide-awake spot and our impression is confirmed when we discover how many important new industries the area has attracted in recent months. M. F. Smith of the Monongahela Power Company, Douglass Adams of the Parkersburg National Bank, and Michael Cassady of the Chamber of Commerce gives us an earful about sites they have available both upstream and downstream. It is obvious that the site-seeker who lands here will get quick and efficient service.

We learn from Harry H. Ebenshade, Jr., that another regional development organization, the Little Kanawha Regional Council, is very active in this area. This is a cooperative program involving 9 counties with similar economic interests.

We find Parkersburg is adding new electric meters at the rate of about 1,000 per year and suffering much less from unemployment than other West Virginia areas. Local citizens are proud of a county-wide recreation program which includes a large new swimming pool. And there is a lot of talk about introducing the city manager form of government in the near future.

ID Editor H. M. Conway, Jr. (left), and Robert Boyd of the Ashland Oil and Refinery, plot out an air course down the Ohio River as part of this special report.

We are told that flood-free sites on the river are available here at prices beginning at $500 per acre. We pick up detail maps and look at a number of these sites before heading down river once again.

In a few minutes we are over the big Kaiser aluminum plant near Ravenswood and we pick up the big power plant at Graham Station. Across the river we spot the Ohio community of Pomeroy, recalling that the Ohio Division of Research and Statistics reports an available labor supply of 1,700 workers in this area.

A little farther along is Gallipolis and not far away is the huge Kyger Creek power plant. From the confluence of the Kanawha River south to the outskirts of Huntington there are only a few small communities.

Our next landing is the Tri State Airport where we once more get the impression we are landing on a carrier. On both ends, the runway drops off sharply into a valley.

Here we are met by Bob Boyd, an official of the Ashland Oil and Refining Company and an ardent booster of the Central Ohio Valley Industrial Council—"COVIC" as it is known in this area.

COVIC represents the cooperative efforts of civic officials in 4 Ohio, 3 Kentucky, and 3 West Virginia counties including some 17 important communities. Most prominent among these are Huntington, Portsmouth, Ashland and Ironton. COVIC president is John Irwin of Portsmouth and the Vice President is Walter Windsor, president of the Marietta Manufacturing Company

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**Don Baker**
*Manager, Huntington Chamber of Commerce*

**Wayne C. Fletcher**
*Dir. of Industrial Development Chesapeake and Ohio Railroad*

at Point Pleasant. Other key figures include Arlie Queen of Wayne, West Virginia and John Woods, president of the Third National Bank of Ashland. Bill Campbell, nationally known golfer, of Huntington, is a former top official and retains an active interest in the organization.

Boyd told ID's editor of Ashland Oil's great interest in Ohio development pointing out that his company, in addition to producing oil in a 12-state area and operating refineries in 3 states, operates the biggest privately-owned transport fleet on the river. Among innovations Ashland has introduced is midstream refueling of river transport units somewhat like jets are refueled in midair.

At lunch we meet Don Baker, the genial manager of the Huntington Chamber of Commerce, and learn how Huntington was selected as an All-American City in 1958. We hear of a long-range program which resulted in establishment of a modern council-manager form of government, of extensive airport improvement work, of public subscription to purchase 226 acres of park land, of a major street resurfacing program, and of an impressive art gallery situated on a 50 acre tract.

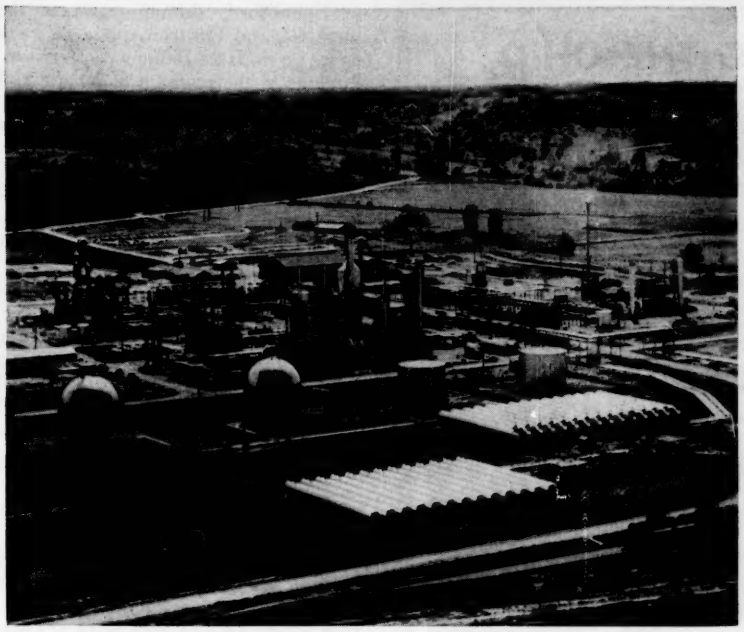
On the industrial side, we learn of several new chemical plants and a 50 million dollar expansion program at Armco Steel across the river. Baker also informs us that river tonnage at Huntington is higher than anywhere else on the Ohio, including Pittsburgh.

Finally we get the facts about the local development corporation which offers sites at cost to desirable industries.

Enroute once more, we turn northwest to follow the winding river to Sciotoville and Portsmouth. We know from previous visits that the Scioto County Airport is a good one and we have the background on local development from Larry Johnson of the Portsmouth Chamber of Commerce.

We take a brief long-distance look at the huge AEC plant in Pike County, but we devote most of our attention to the sites across the river where an impressive start has already been made in chemical industry development.

From Portsmouth West we begin to encounter long stretches of river that have scarcely been touched by industrial or municipal growth. There is the small town of Vanceburgh on the Kentucky side and a little further along we encounter Maysville which is beginning to catch the eye of site-seeking firms. There is no adequate airport so we take a look at the big new Carnation Milk



The Doe Run Plant of the Olin Mathieson Chemical Corporation is located at Brandenburg, Kentucky. The $25 million facility was constructed in 1951 for the manufacture of ethylene chemicals.

plant and continue down river to the West.

In a few minutes we find the skyline of Cincinnati on the horizon and the sprawl of metropolitan growth becomes evident on all sides. We begin to see new subdivisions between Batavia and Mount Washington on the north side of the river and we see construction throughout the Newport-Covington area to the south. We pass the Cincinnati-Lunken airport and stop at the new Greater Cincinnati base which happens to be on the Kentucky side of the river southwest of the city.

### Cincinnati

It's getting dark as we fly across the city and the lights are coming on. As we begin our final approach, we fly through flurries of snow representing winter's last gasp.

Cincinnati clearly is the center of overall efforts to promote and develop the Ohio Valley. As noted previously, it is the home office location for the Ohio Valley Improvement Association and the Ohio River Division of the Army Corps of Engineers.

We find evidence everywhere that this is an area which offers a favorable combination of plant location factors. On the Ohio side there is the huge atomic energy installation near Fernald and on the Kentucky side there are such installations as Acme-Newport Steel. But, like Pittsburgh, Cincinnati has such a big story to tell that we will have to hold the details for a future survey devoted entirely to the metropolitan area.

Taking off once more, we follow the river around the great bend past Lawrenceburg and almost due south to an undeveloped streteh of lowland which extends to Carrollton near the mouth of the Kentucky River. Our notes tell us that there are some attractive sites on the river here elevated above record high water.

A little further west on the Indiana side near Madison we find the huge Clifty Creek generating station—one of the largest in the nation. We scan the area being promoted so aggressively by a local organization known as "The Madison Front Liners." We make a note that this is an impressive small community which deserves further attention.

Taking a beating from the afternoon turbulence, we swing south toward Louisville. Here the Cincinnati story is repeated with the urban sprawl extending from Louisville on the South side of the river across to Jeffersonville and New Albany on the North.

Passing up Bowman Field, we land

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## PLANTS ALONG THE OHIO

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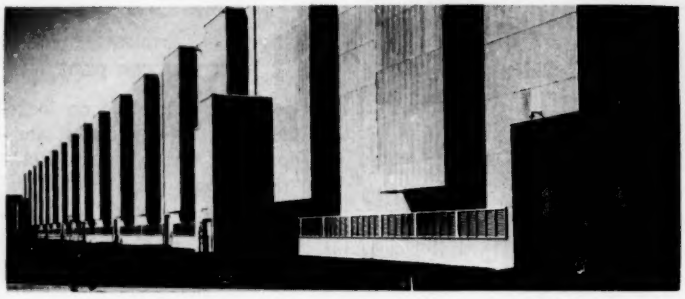
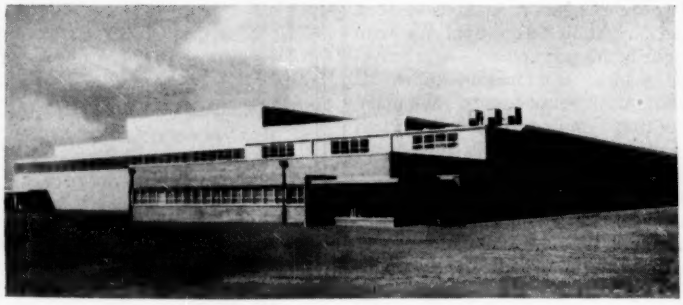


Goodyear Atomic Corporation—Portsmouth, Ohio.

General Electric Co.—Louisville, Ky.



Chain Belt. Co.—Madison, Indiana.

at Standiford, skimming across the huge General Electric Appliance Park as we go in. Here Damon W. Harrison, director of the research and industrial development department of the Louisville Chamber, loads us up with facts and figures.

Along with the usual data on business and industry we are pleasantly surprised to find a brochure labeled "Survey of The Arts in Louisville." We also note the elaborate new Kentucky Fair and Exposition Center 10 minutes from downtown. As in the case of Pittsburgh and Cincinnati, we realize we are going to have to come back for a much more detailed study to do justice to this active area.

### Across the River to Indiana

Climbing out of Standiford we cross the river to the Indiana side to avoid the restricted area around Fort Knox. A few miles to the west we find another warning on our aeronautical charts "dangerous area—inflammable gases." This is the big Doe Run plant of Olin Mathieson Chemical Corporation.

For the next 25 miles or so the river follows a torturous route of horseshoe turns before dropping due south to the vicinity of Stephensport, Kentucky. The course is then west past Tell City, Indiana, and around another big bend to Owensboro.

We gas up at Owensboro-Daviess County Airport where the service is exceptionally good. The Chamber of Commerce development committee is not available for a quick interview so we pick up data from Texas Gas Transmission officials mentioned earlier.

Then we are off, dodging thunderstorms, to Evansville. We check the power plant with its stacks reaching to 794 feet above sea level at Yankeetown, give the new Du Pont plant a once-over, and call the tower at Dress Field. At lunch in the restaurant of the attractive terminal building we get another briefcase-load of data from V. E. Burris, industrial development manager of the Evansville Chamber. Here we don't have any difficulty inspecting the site of a new planned industrial district—it is visible from the airport restaurant at the south border of the field.

Another noteworthy facility in Evansville, we find, is the Mead Johnson Terminal, a combination river-rail-truck terminal, warehouse and open-storage yard. Evansville's excellent location with respect to transportation

# LOOKING OVER
## (and under)
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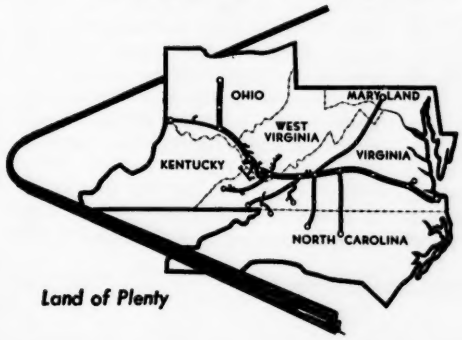
Many desirable growth sites for industries of all kinds are available along the Ohio Valley lines of the N&W. Let us show them to you . . . in strict confidence.

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Industrial and Agricultural Dept.
Division ID-842 (Phone DIamond 4-1451, Ext. 474)
Norfolk and Western Railway
Roanoke, Virginia

**Norfolk and Western RAILWAY**

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voted
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CITY"

. . . . in recognition of municipal accomplishment by the National Municipal League.

Through the industry and perseverance of our citizens we have produced a city with unusual cultural and economic advantages.

The City of Huntington not only has unusually desirable factors in such fields as transportation, water, geographical location and available land, but also the type of citizens and government which will produce a climate suitable for the economic growth of industry.

*Allow us to demonstrate*

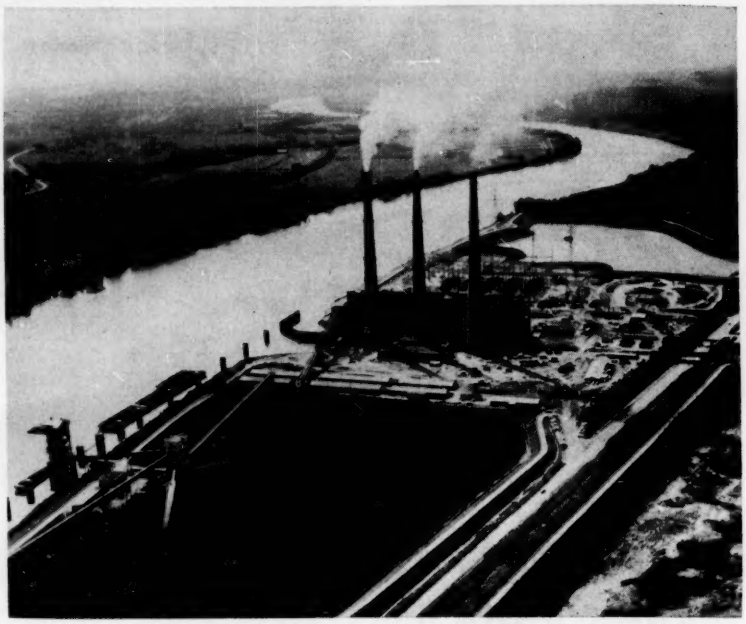
**Don Baker**

**HUNTINGTON CHAMBER OF COMMERCE**

*Huntington, West Virginia*

★ ★ ★ ★ ★





This generating plant, known as the Kyger Creek plant, is located on the river near Cheshire, Ohio. It is owned by the Ohio Valley Electric Corporation.

**John W. Bush**
*Director, The Ohio Dept. of Commerce*

could not be better typified.

At the same time we learn of efforts being made to persuade highway officials to relocate Interstate Highway 64 to further improve motor transport. Before leaving we take a look at the downtown area which is just beginning to show signs of renovation.

Skipping across the river, we take a look at Henderson with its impressive array of chemical plants and then we swing West past Mount Vernon, Indiana. A tank firm reminds us that there is a new oil boom in this area.

Flying southeast we pass the mouth of the Wabash, then Shawneetown, and then along mile after mile of undeveloped riverfront. Pulling up to about 10,000 feet we take a good look at one of the most unusual water development projects in the nation: east of Paducah both the Tennessee and Cumberland rivers empty into the Ohio and a few miles west of Calvert City the rivers are only a mile or so apart.

Already a dam on the Tennessee holds back the huge Kentucky lake and now a new dam on the Cumberland will provide another reservoir which may be joined with the first. These huge water resources, visible for miles, provide a backdrop for the chemical complex at Calvert City.

Our notes indicate that this center of development was launched in 1949 when Pennsylvania Salt located a $12

Harry W. Weeks, Executive Secretary of the Cairo, Illinois Chamber of Commerce.

Russ Chittenden (left) is manager of the Paducah, Kentucky Chamber of Commerce. Discussing Paducah's Registered Community with Chittenden is Gresham Hougland, Exec. V.P. of Walter G. Hougland Sons, Inc., a river transport firm.

million unit. This was followed quickly by Pittsburgh Metallurgical with a $14 million facility. Then, since 1953 National Carbide has come in with a $20 million acetylene plant, Goodrich Chemical with a $6 million chloride unit, Air Reduction with a $3 million vinyl acetate monomer plant, General Aniline and Film with a $6 million alcohol plant, Goodrich Chemical with another $8.4 million and several lesser installations.

This is all part of a larger complex centered around Paducah which includes huge electric power and atomic energy operations. Landing at Barkley Field we get the full story from Gresham Hougland of Hougland Sons, Inc., river transportation, and Russ Chittenden, manager of the Paducah chamber. Chittenden gives us the details on several promising sites for major process industries. One 289 acre tract is available just east of the Atomic Energy Commission reservation adjacent to the railroad bridge which crosses to the Illinois shore. This is held under option and can be made available "to the right company" at about $100 per acre.

Incidentally, one trend that has been noted all along the river is the increased discussion of the possible utilization of sites which lie below the level of the record 1937 flood. Increased flood control throughout the Ohio drainage basin as well as better engineering of protective facilities makes it possible to consider many sites which previously were out of the question. While basing his current development program on promoting the better-elevated tracts, Chittenden points out that the floor level of the huge TVA steam plant at Shawnee is 21 feet below the '37 flood level.

Turning our conversation to transportation, we learn Hougland is a contract carrier of bulk commodities operating between Port Arthur, Texas, and Pittsburgh along the Ohio and up the Mississippi to St. Paul. He moves 8,000 tons of petroleum products from Port Arthur to Pittsburgh every 22 days.

The trip from Texas to Pennsylvania averages about 15 days going upstream and it takes about 7 days for the return downstream. The round trip between Huntington and St. Louis requires about 13 days.

Hougland argues strongly for further investment in locks and related facilities throughout the length of the river. He says the river is now just about at capacity with "a towboat at every lock." But if suitable facilities are built "we can effectively double the river capacity."

Taking off at Paducah, we follow the huge power transmission lines to the steam plant at Joppa on the Illinois side. This is the plant which supplies energy for the AEC installation across the river and which was the scene of bitter labor disputes during the hurry-up construction program some years ago.

Our last lap carries us around another big bend past Mound City, over some promising sites, and into the airport at Cairo. Here we taxi to the ramp to find Harry Weeks, executive secretary of the Cairo chamber.

A quick review reminds us that Cairo is a city which has had to adjust to plenty of ups and downs. In the early days of river transport it was one of the key crossroads of the nation—at the intersection of the Ohio and Mississippi.


# TARGET TODAY and TOMORROW

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**Before you go site-seeking, take advantage of background studies which have already been prepared for the areas listed below. Generally, reprints are available gratis.**

| Area | Date |
|---|---|
| Metropolitan Columbus, Ohio | June, 1959 |
| St. Louis Area | May, 1959 |
| Iowa | Apr., 1959 |
| Puerto Rico | Mar., 1959 |
| Washington, D. C. Area | Feb., 1959 |
| Cleveland Corridor | Jan., 1959 |
| West Texas | Jan., 1959 |
| Rome and Floyd County, Ga. | Dec., 1958 |
| Sacramento | Nov., 1958 |
| North Carolina | Oct., 1958 |
| Orange County, Calif. | Sept., 1958 |
| Erie County, Pa. | Aug., 1958 |
| New Bedford, Mass | Aug., 1958 |
| Lower Va. Peninsula | July, 1958 |
| Mattoon, Ill. | June, 1958 |
| Florida Bay Area | June, 1958 |
| Western Mississippi | May, 1958 |
| Savannah Ga., Area | May, 1958 |
| Knoxville, Tenn. | April, 1958 |
| Charleston, S. C. | March, 1958 |
| Dallas, Tex. | Feb., 1958 |
| Louisiana | Jan., 1958 |
| Cobb County, Ga. | Jan., 1958 |
| Arizona | Dec., 1957 |
| Pennsylvania | Sept., 1957 |
| Canada | Aug., 1957 |
| Petersburg, Va. | Aug., 1957 |
| Southwest, Ga. | July, 1957 |
| Charlotte, N. C. | Feb., 1957 |
| Meridian, Miss. | Jan., 1957 |
| Little Rock, Ark. | Oct., 1956 |
| Raleigh, N. C. | Aug., 1956 |
| North Carolina | July-Aug., 1956 |
| Memphis, Tenn. | May, 1956 |

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As an important transshipment point, it enjoyed heavy investment and high employment.

Today, Cairo, by necessity, is looking for other business activities and is eager to attract industry to minimize a high unemployment rate.

Weeks feels that the very excellent site north of Cairo at America may hold the answer to his problems. This is a well-situated piece of ground lying between the New York Central tracks and the river, on Highway 37, and mostly above record high water. Estimated cost is from $200 to $300 per acre.

Looking upstream at the big things that are happening throughout the length of the Ohio, Weeks is sure that Cairo will soon enjoy its share of this development.

## Reference Sources

A large number of individual reference sources were consulted in the preparation of the foregoing report. To the site-seeker, many of them will be useful. The complete list is too lengthy for the limited space available. Direct inquiry with groups and organizations mentioned in the report should bring whatever material is desired. Of particular interest are a few special reports listed below. This list is not complete, but does indicate the wide scope of specialized studies available.

**Pittsburgh and Allegheny County.** Regional Industrial Development Corporation, 1046 Union Trust Building, Pittsburgh, Pennsylvania. 36 pages.

**Economic Potentialities of the Upper Ohio Valley.** Upper Ohio Valley Development Council, Inc., 710 First National Bank Building, Steubenville, Ohio. 82 pages.

**The Priceless Asset at Parkersburg, West Virginia.** Parkersburg Chamber of Commerce, 931 Market Street, Parkersburg, West Virginia. 39 pages.

**Industrial Opportunities in the Central Ohio Valley.** Central Ohio Valley Industrial Council, c/o Robert S. Boyd, Ashland Oil Company, Ashland, Kentucky. 20 pages?

**Profile of Industrial Progress—Scioto County, Ohio.** Portsmouth Chamber of Commerce, 811 Chillicothe Street, Portsmouth, Ohio. 18 pages.

**An Economic and Industrial Survey of Madison, Indiana.** The Madison Frontliners, P. O. Box 270, Madison, Indiana. 52 pages.

**Industrial Resources of Maysville, Kentucky.** Maysville-Mason County Development Association, Maysville, Kentucky. 34 pages.

**Community Information Brochure, Portsmouth, Ohio.** Portsmouth Area Chamber of Commerce, 811 Chillicothe Street, Portsmouth, Ohio. 80 pages.

**Industrial Resources, Louisville, Kentucky.** Louisville Chamber of Commerce, 300 West Liberty Street, Louisville, Kentucky. 34 pages.

**Facts for Industry, Louisville, Kentucky.** Louisville Chamber of Commerce, 300 West Liberty Street, Louisville, Kentucky. 42 pages.

**Evansville, Indiana, Test Tube for All America.** Evansville Chamber of Commerce, 117 Main Street, Evansville, Indiana. 64 pages.

**The Evansville Indiana Gateway.** Evansville Chamber of Commerce, 117 Main Street, Evansville, Indiana. 64 pages.

**Chemical Industry Opportunities in Kentucky.** Kentucky Department of Economic Development, New Capitol Annex Office Building, Frankfort, Kentucky. 88 pages.

**The Big River Region.** Texas Gas Transmission Corporation, 416 West Third Street, Owensboro, Kentucky. 12 pages.

**Industrial Resources, Paducah, Kentucky.** Paducah Association of Commerce, P. O. Box 810, Paducah, Kentucky. 39 pages.

**Ohio River Survey, Paducah, Kentucky.** Texas Gas Transmission Corporation, 416 West Third Street, Owensboro, Kentucky. 17 pages.

**Tour of Kentucky's Ohio River Industrial Sites.** Department of Economic Development, New Capitol Annex Office Building, Frankfort, Kentucky. 100 pages.

**Cincinnati, The City Closest to America.** Industrial Division, Cincinnati Gas & Electric Company, Cincinnati, Ohio. 20 pages.

**The Upper Ohio Valley.** Ohio Valley Industrial Corporation, Hawley Building, Wheeling, West Virginia. 70 pages.

**New and Expanding Industries of Indiana, 1958.** Indiana Department of Commerce and Public Relations, 333 State House, Indianapolis, Indiana. 23 pages.

**Site Potentialities on the Lower Kanawha River.** Industrial Development Department, The Chesapeake and Ohio Railway Company, Huntington, West Virginia. 11 pages.

**A Catalog of Industrial Sites in the Area Served by Monongahela Power Company.** Monongahela Power Company, Fairmont, West Virginia. 13 pages.

**Survey of Communities in Southern Ohio.** Norfolk and Western Railway Company, Roanoke, Virginia. 114 pages.

**The Ohio Valley Story.** Ohio Valley Improvement Association, Inc., 4517 Carew Tower, Cincinnati, Ohio. 18 pages.

**The Economic Effects of Ohio River Navigation** by Joseph R. Hartley, School of Business, Indiana University, Bloomington, Indiana. 98 pages.

**Tenth Annual Summary, 1958, Ohio River Valley Water Sanitation Commission.** Ohio River Valley Water Sanitation Commission, 414 Walnut Street, Cincinnati, Ohio. 32 pages.

**Industrial Plant Sites**—Kanawha River Area; Evansville, Indiana; Sharonville, Ohio; Harrison, Ohio; Cario, Illinois; America, Illinois. New York Central System, Terminal Tower Building, Cleveland, Ohio.

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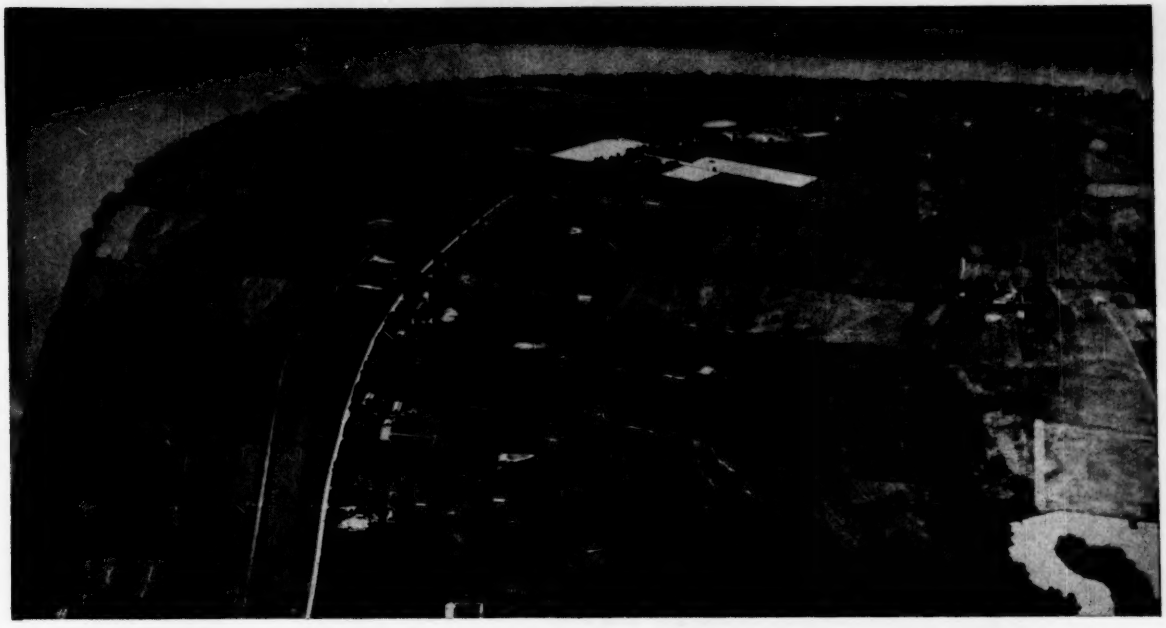

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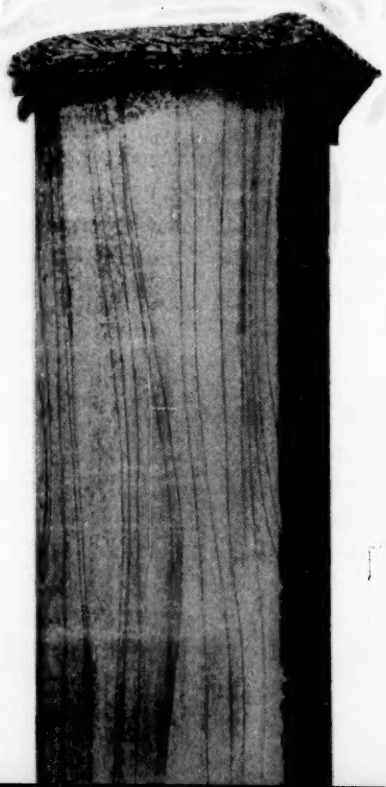
Add rich markets, reasonable taxes and reliable materials, labor and transportation...and you can see why this is a perfect place to grow.



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manufacturers record

THE NATIONAL MAGAZINE OF PLANT LOCATION NEWS

# EXPANSION BRIEFS

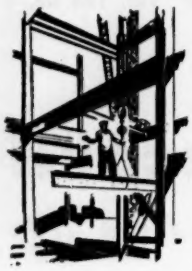
SALINAS, CALIF. A $5 million chocolate plant is being built here for the Nestlé Company, Inc. Scheduled for completion next year, the plant will be four stories high and will occupy about four acres of a 30-acre site. It is expected that the operation will employ about 170 persons. The Salinas factory will be the 11th Nestlé plant now operating in the United States and the second in California.

**GREENWOOD, S. C. The Chemstrand Corporation, Decatur, Alabama, has announced plans to build here a multimillion-dollar nylon plant. In the first stage, capacity for ten million pounds of nylon yarn will be available in late 1960. The plant will be on a site of 1,400 acres about six miles northeast of Greenwood. The company's original nylon plant at Pensacola, Florida, has an annual capacity of 114 million pounds.**

SASKATOON, SASK. Western Cabinet Company of Edmonton is building here a $250,000 plant for manufacture of school desks and supplies, office equipment, stacking chairs, and humidified sealed windows. Production in the first phase will get under way in the fall, with some 50 employees. The plant will be in a 10-acre site.

**GUAYNABO, PUERTO RICO. A $2 million rice mill will be built in Guaynabo by the Rice Growers Association of California. The new plant will have the capacity to store and process 20 million pounds of rice at one time. It will be on a 4.5-acre site and will have an annual payroll of $150,000.**

WILLOW GROVE, PENNA. Ground has been broken here for the construction by Philco Corporation of a Transac computer center. The multimillion-dollar facility will be on a 72-acre tract and will have more than 200,000 square feet of floor space. Philco expects to occupy the new center early in November this year.



# NEW PLANT SUMMARY

BY DONALD V. QUINN

**The following is a summary of major industrial plants reported to INDUSTRIAL DEVELOPMENT during the month of May, 1959, by industries and industrial development organizations in the United States, Canada, and territories.**

**Number of employees is indicated by the code: A (under 25); B (25-100); C (100-250); D (250-1,000); and E (over 1,000).**

### ALABAMA

Cullman—Everyday Products, Inc. Plans announced. $80,000. (B)

Grove Hill—H. A. Satin Co. Maternity Clothes. Plans announced. $53,000. (B)

Mapleville—Thomas Veneer & Plywood Co. Veneer. Plans announced. $53,000. (B)

Ozark—Hutto Mfg. Co. Shirts. Plans announced. $10,000. (B)

Phenix City—Alabama Supply & Equipment Co. Swing Blades. $100,000.

Prattville—Armour & Co. R. W. Vzirr, Mgr. Poultry processing. In operation. (B)

Sheffield—Bryson's. Furniture & Bedding. Plans announced. $61,000.

### ALASKA

No plants reported.

### ARIZONA

Phoenix—Sun-Ray of Arizona. H. M. Dreiseszun, Pres. Women's Sportswear. Under construction. 18,000 sq. ft.

Magnolia—The Odyssey Trailer Co.; Collapsible, fiberglass house trailers. Est. date of Oper. Late 1959. 25,000 sq. ft. (B)

Russellville—Ward Furniture Co. J. A. Ward, 3rd, Pres. Furniture parts. Est. date of Oper. Late 1959. $1,300,000. (B)

### CALIFORNIA

Azusa—Nylox Corp. W. C. Lockwood, Pres. Fiberglass boats. Est date of Oper. May 1959. 10,000 sq. ft.

Los Angeles—W. H. Gunlocke Co. Furniture. Plans announced. $300,000. 27,000 sq. ft.

Dominguez—Allied Pacific Mfg. Co. J. R. & D. A. Stull & J. M. Herman, owners. Tool and die maker. In Oper. 2.6-acre site. 30,000 sq. ft.

Gilroy—National Fiberglass Corp. V. Lase, Plant Mgr. Under construction. 10,900 sq. ft.

Glendale — Space Electronics Corp. J. Fletcher, Pres. Communication systems research and development. Under construction. 15,000 sq. ft. (C)

Hawthorne—Unitron of California. J. Hyman, Pres. Woven wood products for home furnishings. In Oper. 20,000 sq. ft.

Hollywood—Reddi Wip Mfg. Co. F. Calemia, Pres. Food products. Plans announced. 45,000 sq. ft.

Inglewood—H. I. Thompson Fiber Glass Co. H. I. Thompson, Pres. High temperature insulation plastics and high temperature Missile Supplies. Construction completed. 13,000 sq. ft. $250,000.

Monrovia—Avon Products Co. Inc. M. W. Taylor, Gen. Mgr. Cosmetics. Plans announced. 75,000 sq. ft. $600,000.

Monrovia—Datex Corp. C. P. Spaulding, Pres. Digital instrumentation and data handling systems. Est. date of Oper. July 1959. 10,000 sq. ft.

Pasadena—Good Humor Ice Cream Co. C. Shultz, Mgr. In Oper. $300,000. (B)

Santa Monica—Standard Fire Hose Co. J. B. Hughes, Pres. Fire protection equipment, hoses, hose cabinets and hardware. Est. date of Oper. Aug. 1959. 10,246 sq. ft.

Union—Bemis Bros. Bag Co. J. White, Prod. Mgr. Plastic bags with facilities for the extrusion of polyethylene liners and the mfg. of plain and printed polythylene bags. Est. date of Oper. June 1959. 30,000 sq. ft.

Visalia—Bowser, Inc. Pump mfg. Under construction. $450,000. 30,000 sq. ft.

West Los Angeles—West Photo Laboratories. Ed. Godar, Pres. Photo service, printing, reproduction, etc. Plans announced. 20,000 sq. ft.

### COLORADO

Englewood—Sealtest; Colo. Div. Milk, ice cream, and cottage cheese. Under constr. Est. date of Oper. July 1959. 55,000 sq. ft. 14-acre site. $1 million. (C)

Greeley—Greeley Capitol Pack, Inc. Kenneth Monfort, Pres. Meat processing. Plans announced. $2 million. 92,000 sq. ft. (D)

### CONNECTICUT

Plainville—Marlin Rockwell Corp. Ball bearings. Plans announced. $500,000.

### DELAWARE

New Castle—Avi Sun Corp. C. G. Kirkbride, Pres. Polyproplyne. Est. date of Oper. Sept. 1, 1959. Multi-million. (C)

Wilmington—DuPont Co. Chemical research. Est. date of Oper. Late Summer 1960. $6 million. (C)

### DISTRICT OF COLUMBIA

No plants reported.

### FLORIDA

Hialeah—Modern Maid Kitchens. Wm. Adler, Pres. Formica kitchen cabinets. Plans announced. (B)

High Springs—Carlon Products Corp. Plastic pipe for sewer, water and gas lines. In Oper. (C)

Hollywood—U. S. Aluminum Inc. & U. S. Aluminum Windows. C. F. Hayes, Pres. Windows and builders hardware. Plans announced. 18,000 sq. ft.

Howey-in-the-Hills — Life Guard Citrus Corp. C. W. Wisdom O'Neill, Pres. Tangerine canning. Plans announced. (B)

Jacksonville—Florida Coating Corp. T. A. Morgan, Pres. Corrosion preventive coating for pipe. Plans announced.

Jacksonville—Food Fair Stores, Inc. H. Kramer, Pres. Setzer Div. Multi-State distribution center. Plans announced. 410,000 sq. ft. 53 acres. (D)

Jacksonville — Trailmobile, Inc. W. A. Burns, Pres. Motor freight trailers. Plans announced. 11,600 sq. ft. $350,000. (B)

Lake Worth—Eloral Associates, Inc. E. L. Kidd, Pres. Printing advertising circulars. Plans announced. (B)

Live Oak—Shands & Baker, Inc. T. S. Baker, Pres. Quarrying and processing rock. Plans announced. $1 million.

Miami—Florida Metal Fabrication Co. Div. of J. F. Bingham Mfg. Co. Sheet metal fabrication. In Oper.

Magnesium Co. of America, Inc. E. S. Christiansen, Pres. Aluminum, magnesium and steel products. Plans announced.

Ocala — Hulme Advertising Co. I. V. Hulme, Owner. Advertising signs. Plans announced. 10,500 sq. ft. $25,000. (B)

Panama City—Gulf Asphalt Corp. L. C. Hilton, Partner. Hot mix asphalt. Plans announced. (B)

Panama City—Rhea Mfg. Co. Alan Glen, Exec. V. P. Women's dresses. Est. date of Oper. June 1959. (B)

Pensacola—Chemstrand Corp. C. O. Hoyer, V. P. & Gen. Mgr. Improved nylon for special uses, new nylon fiber prod. Est. date of Oper. 1960. (C)

Pompano Beach—American National Temperature Control Co. Air Conditioner Units. Plans announced. (B)

Pompano Beach—Cretty Corp. Life preservers. Plans announced. (B)

Pompano Beach—O-Z Electric Co. Electric Conduits. Plans announced. (B)

St. Cloud—American Decalcomania Co. Robt. Winn, Chief Eng. Cigarette tax stamping and silk screen printing Machines. In Oper. (B)

St. Petersburg—Florida Aluminum Castings Inc. H. W. Schmidt, Pres. Aluminum and bronze castings for aircraft components and the electronic industry. Plans announced. 5,000 sq. ft. (B)

Sanford—Dearborn Electronics Co. Electronic Components. Est. date of Oper. Aug. 1959. 10,000 sq. ft. (B)

Tampa—A. S. Aloe Co. Mr. Thomas, Pres. Surgical supplies. Plans announced. 5,400 sq. ft. $30,000.

Tampa—Richardson Tractor Co. Multi-State distribution of earth moving equipment. Plans announced. 10,500 sq. ft.

Tarpon Springs—Gulf Gold Inc. K. M. Tuttle, V. P. Shrimp processing. Plans announced. $150,000. (C)

Vero Beach—Dudley Lock Corp. J. M. Muntner, Pres. Combination Locks. Plans announced. 25,000 sq. ft. $350,000. (C)

### GEORGIA

No new plants reported.

### HAWAII

Ewa—Southern Pipe & Casings. D. A. Stromsoe, Pres. Steel-encased cement pipe. Est. date of Oper. August 1, 1959. (B)

Hilo—Nutrilite Products, Inc. Extracting Vitamin C from Acerola Cherry. Plans announced. $500,000.

Honolulu—Hawaiian Wester Steel Co. P. E. Spalding, Jr., Pres. Reinforcing rods. Est. date of Oper. July 1959. $1.5 million.

### ILLINOIS

No new plants reported.

### INDIANA

Fort Wayne—Borden Co. R. Goss, Mgr. Ice Cream. Plans announced. $1 million.

### IOWA

Ackley—Ackley Food Processors. R. Day, Plant Mgr. Food canning and processing. In Oper. $130,000. (B)

Dyersville—Ertl Co. Fred Ertl, Sr., Pres. Die casting of aluminum and zinc. Est. date of Oper. Sept. 1959. $230,000 (B)

Marshalltown—Kiowa Corp. Ralph McCagne, Pres. Aluminum and zinc die castings. Est. date of Oper. July 1 1959. $250,000. (B)

Oskaloosa—Productive Acres Mfg. Co. H. S. Palmer, Pres. Automatic feed loading equipment. Est. date of Oper. Fall 1959. $150,000. (B)

Ottumwa—Continental Mfg. Co. J. Michelson, Pres. (Chicago) Mfg. Work Clothes. Est. date of Oper. Sept. 1, 1959. (B)

Sioux City—Glaser Dressed Beef. J. Glaser, Pres. Dressed beef packing. Est. date of Oper. Sept. 1959. $240,000. (B)

Sioux City—Kingsberry Sioux City Brewery. G. Hanna, Plnt. Offl. Brewery. Est. date of Oper. May 1959. (B)

Sioux City—Sioux City Foundry. H. Goldstein, Pres. Castings and structural steel. Est. date of Oper. May 1959. $250,000.

Waterloo—The Carnation Co. Mr. Heiber, Plant Mgr. Fresh milk products. Est. date of Oper. Fall 1959. $250,000.

Waterloo—Rath Packing Co. Joseph Gibson, Exec. V. P. Mixed feeds. Est. date of Oper. Jan. 1960. $650,000.

### KANSAS

Arkansas City—Riblet Products Co. Steel frames and roofs for mobile homes. Plans announced.

Galena—Matt-Craft Mfg. Co. Roe Mathews, Owner. Living room suites. In Oper. (B)

LaCrosse—Rushco Mfg., Inc. A. R. Mullins, Plant Mgr. Uni-caster farm wagon. Plans announced.

Wichita—Davis Mfg., Inc. Chas. J. Davis, Pres. Fiberglass boats, portable trenchers and other light industrial equipment. In Oper. (B)

### KENTUCKY

Louisville—General Foundry and Mfg. Co. M. A. Stuzzi, Pres. Castings made of nonferrous metals. In Oper. 1½ acre site. 7,200 sq. ft.

### LOUISIANA

Jeanerette—Grimes and Freeman. E. M. & O. C. Grimes & O. Freeman, Owners. Veneer and Plywood. Occupying existing building. $200,000 corp. Plans announced. Oper. begin early fall. (B)

New Orleans—Bestwall Gypsum Co. Gypsum board, lath and plaster. Plans announced. 30 acre site. Multi-million dollar.

### MAINE

Calais—Calais Industries, Inc. (Northeastern Industries Inc., Calais). Un-turned Lam. Bowling pins. Est. date of Oper. June 1959. (B)

Lewiston—Unity Heel Co. Ben Halpern, Treas. Plastic and wood heels. Est. date of Oper. June 1959. (B)

Saco—Allied Saco Footwear. Chas. Shulman, Treas. Vulcanized footwear products. Est. date of Oper. July 1959. (D)

Sanford—Springvale Sportswear, Inv. (subsidiary of: Churchill Sportswear, Inc., Boston, Mass.). Mfg. of Women's sportswear. Est. date of Oper. July 1959. (B)

### MARYLAND

No new plants to report.

### MASSACHUSETTS

Acton—Precision Instrument Co. Precision tools. Est. date of Oper. Sept. 1959. 10,000 sq. ft. (B)

Andover—Reichold Chemical Co. A. L. Wooten, Pres. Epoxy resins. Plans announced. $350,000. (B)

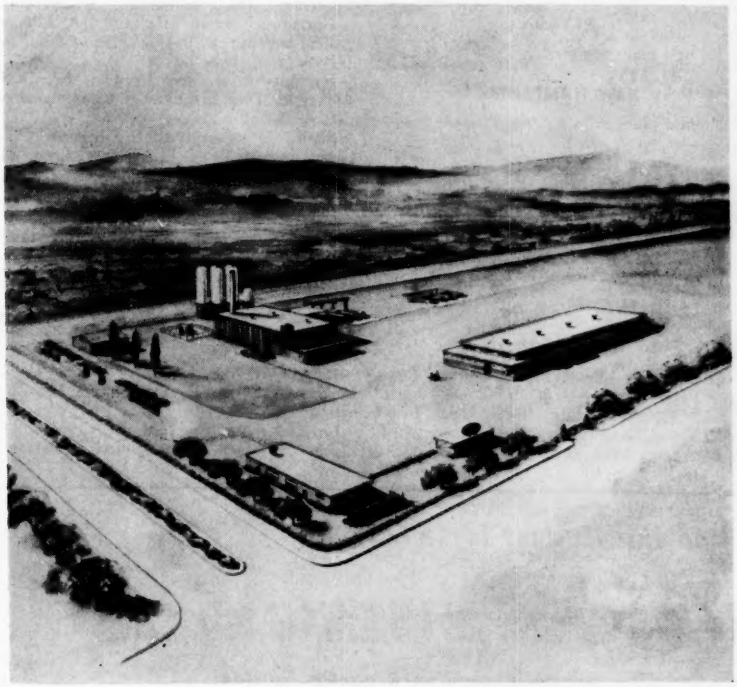
Bedford—Mitre Corp. C. W. Halligan, Pres. Research center. Under construction. 100,000 sq. ft. (D)

Boston — International Shoe Machinery Corp. Shoe factory machines. Est. date of Oper. September 1959. 15,000 sq. ft. (C)

Braintree—Ainslie Corp. of Quincy. Microwave antenna. Plans announced. 20,000 sq. ft. (B)

Chicopee — Indian Motorcycle Co. of Springfield. L. O. Paul, V. P. Mfg. of Motor cycles and parts. Est. date of Oper. Nov. 1959. 20,000 sq. ft. (C)

Framingham—New England Cooperatives, Inc. Food warehouse. Est. date of Oper. November 1959. 40,000 sq. ft. (C)



Air Reduction Pacific Co., Div. of Air Reduction Co., Inc., has begun construction of this new $3 million plant in Richmond, Calif. The new plant will produce liquid oxygen, nitrogen and argon, serving the missiles, metal working and steel industries in the San Francisco Bay area. Completion is expected by the end of 1959.

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Walter Koch
Executive Vice President
P. O. Box 1284
Monroe, Louisiana
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Gardner — O'Hearn Mfg. Co. Geo. E. O'Hearn, Jr., Pres. Mfg. Furniture. Est. date of Oper. Oct. 1959. 25,000 sq. ft. (C)

Gloucester—Morningstar Fisheries Co., Inc. Fish Processing. Const. completed. (B)

Leominster—Jayron Corp. Plastics metals, glass. Est. date of Oper. July 1959. 10,000 sq. ft. (B)

Millis—Gabriel Electronics Co. Electronics. Est. date of Oper. Dec. 1959. 70,000 sq. ft. (D)

New Bedford—Vio Vin Corp. Fish Meal. Est. date of Oper. Nov. 1959. $400,000. (B)

Newburyport—Chase Shawmut Co. P. G. Johnston, Pres. Electrical Products. Plans announced. 25,000 sq. ft. (C)

Sharon—Barnstead Co. of Boston. Mfg. Hospital equipment. Est. date of Oper. Dec. 1959. 20,000 sq. ft. (C)

Sudbury—Raytheon Mfg. Co. C. F. Adams, Pres. Electronics. Est. date of Oper. Nov. 1959. 160,000 sq. ft. (D)

Wakefield—Parkwood Laminates, Inc. P. B. Leocrette, V. P. Laminated Plastics. Est. date of Oper. Oct. 1959. 25,000 sq. ft. (B)

Waltham—Boeing Aircraft Co. of Seattle. Research and engineering facilities. Est. date of Oper. May 1959. (B)

Waltham—Clevite Corp. Diodes, transistors. Plans announced. $3 million. (D)

Westfield—Boxmakers, Inc. S. A. Dube, Pres. Paper Boxes. Est. date of Oper. Aug. 1959. 40,000 sq. ft. (B)

West Springfield—Carter Paper Co. N. S. Beckwith, Offl. Paper products. Est. date of Oper. Oct. 1959. 21,000 sq. ft. (B)

Woburn—General Aluminum Co. Aluminum products. Est. date of Oper. July 1959. 20,000 sq. ft. (B)

### MICHIGAN

Coloma—Twin Cities Container Corp. M. F. Ritchie, Pres. Laminated substance for packaging industry. Started construction. $500,000.

Charlotte — Recordio Corp. Donald Heinisch, Mgr. Recording equipment. In Oper. $150,000. (C)

Detroit—Detroit Italian Bakery. Leo Ganci, In Charge. Sales room and bakery. Contracts let. $150,000.

Jackson—Walker-Michigan Div. C. C. Moss, Pres. Mfg. mufflers for automotive industry. Started construction. $300,000. (D)

Willow Run—General Motors Corp. James Gordon, Pres. Making the "Corvair." In Oper. $2,658,570. (E)

### MINNESOTA

No new plant reported.

### MISSISSIPPI

Carthage — R & R Packing Co. M. D. Regan & C. T. Ramzy, Owners. Poultry processing. Plans announced. $250,000. (C)

Clarksdale—Clarksdale Paving and Construction Co. H. D. Kantor & H. Jeneff, Partners. Asphalt Paving Material. Est. date of Oper. June 1959. $150,000. (B)

Forest—Southeastern Hatcheries. Poultry. Plans announced. (D)

Greenville—Greenville Sheet Metal Works. Metal fab. Est. date of Oper. 1959.

Jackson—Atlas Tile & Brick Co. L. C. Guillot, Pres. Tile and brick products. In Oper. (B)

Olive Branch—Light Equipment Plant. M. Ritter, Pres. (Expansion of Light and Power Utilities Corp., Memphis, Tenn.) Electrical lighting equipment. Plans announced. $575,000. (B)

Pascagoula—Morrell Packing Co. Animal food. Est. date of Oper. Fall 1959.

Russellville—Arkla Air Conditioning Corp. Natural gas meters, industrial gas control devices, and a variety of gas burning household and commercial appliances. Plans announced. $2 million. (B)

### MISSOURI

Hazelwood — Wetterau Grocer Co., Inc. Grocery distribution. Est. date of Oper. End of 1959. 230,000 sq. ft. 18½-acre site.

Kansas City—Knaus Truck Lines. Terminal and Maintenance. 29,000 sq. ft. $1 million.

Kansas City—Bert Lyon & Co. Bert Lyon, Pres. Hide processing and wool dealer. Under construction. Est. date of Oper. July 1959. $400,000. 60,000 sq. ft. 4-acre site. (B)

Kansas City—Marion Laboratories. E. M. Kauffman, Pres. Pharmaceuticals. Plans announced. 15,000 sq. ft.

St. Charles—Universal Match Corp. Missile launcher parts. In Oper. 22,000 sq. ft. (B)

St. Louis. A. S. Aloe Co. R. Thomas, Sec.-Treas. Surgical supplies. 105,000 sq. ft. $805,000.

St. Louis—Artemis, Inc. Lingerie. Plans announced. 10,000 sq. ft.

### MONTANA

No new plant reported.

### NEBRASKA

No new plant reported.

### NEVADA

No new plant reported.

### NEW HAMPSHIRE

No new plant reported.

### NEW JERSEY

Clark Township — Western Electric Co. Telephone repeaters. Est. date of Oper. Early 1960. 100,000 sq. ft.

Edison Township—Lee Filter Corp. Martin Weiss, V. P. & Gen. Mgr. Filters for industrial use. Plans announced. $1-million. 50,000 sq. ft. (D)

### NEW MEXICO

Albuquerque—Ravel Bros. Feed and fertilizer. Plans announced. $250,000. 5,000 sq. ft.

Eddy County—Skelly Oil Co. J. S. Freeman, Pres. Natural gasoline. Est. date of Oper. August 1959. $3-million.

Grants—Continental Marine Co. C. Davis, Attorney. Boat Manufacturers. Est. date of Oper. July 1959. $270,000.

Portales—Gulf Interstate Company. Compressor Station. Est. date of Oper. 1959. $1 million.

Socorro — Socorro Timber and Lumber Corp. Victor Lewis, Pres. Logging and lumbering. Est. date of Oper. June 1959. (B)

### NEW YORK

Middletown—Jack Barnett & Sons Co. Inc. J. Barnett, Pres. Shoes. Est. date of Construction May 1959. 12,000 sq. ft. (B)

Peekskill — Dalcro Corp. Children's and Ladies Blazers. In Oper. (B)

### NORTH CAROLINA

Angier—Angier Mfg. Co. Children's sportswear. Under construction. Est. date of Oper. Sept. 1, 1959. 11,500 sq. ft. (C)

Asheville—Ball Bros. Co., Inc. Mfg. glass containers. Est. date of Oper. End 1959. Multi-million Dollar.

Brunswick—National Spinning Co. Phillip Leff, Pres. Synthetic and wool knitting yarns for the knit outer-wear industry. Under construction. Est. date of Oper. Fall 1959. 75,000 sq. ft. 20-acre site.

Conway — Riverside Mfg. Co. (Div. of American Package Corp.) Hardboard (a wood fiber Product.) Plans announced. (B)

Fayetteville — National Feed Processing Corp. Chemical Processing. Plans announced. $1 million. (B)

Gold Hill—Carolina Fluff-Lite Corp. Lightweight Aggregate. Plans announced. (B)

Hendersonville—Wind N Sky, Inc. Casual Sportswear. Plans announced. (B)

Norman—Norman Mfg. Co. Inc. Lumber, pallets and pre-cut houses. Plans announced. (C)

Raleigh—Atlas Steel Products Co. D. O. Alexander, Pres. Steel Tanks. Under construction. $225,000. (B)

Shelby—Pittsburgh Plate Glass Co. Plate Glass, mirrors, etc. Plans announced. $20 million. (D)

### NORTH DAKOTA

No new plants reported.

### OHIO

Austintown—Loblaw, Inc. Grocery warehouse and distribution center. Plans announced. $885,000.

Canton—Terminix Co. of Ohio. H. L. Meyers, Pres. Warehouse and office. Plans announced. $65,000.

Chillicothe—Johns-Mansville Corp. A. R. Fisher, Pres. Vinyl plastic and asphalt tile


## *in the August issue . . . .*

### *Buffalo, N. Y.*

*This will be the first of an extensive series of area features on Upstate New York and its industrial opportunities.*

### *The Annual Canadian Progress Edition*

*Next month ID will publish a comprehensive survey of industrial progress in Canada, America's good neighbor to the north!*

**Conway Publications announces a new service to site-seeking executives which will provide basic community data presented in standardized, comparable form.**

When you have a number of communities under consideration for a new plant site, comparative data on all of them is often difficult to assemble. The Registered Community Audit is the answer to this problem!

No "form" can answer all your questions or provide enough data for a site decision. However, by having standardized data available in comparative form, you can quickly eliminate obviously unsuitable locations.

This Registered Audit is a free service conceived by Conway Publications as a service to both industry seeking locations and communities which seek industry.

A number of area groups such as state development agencies, public utilities and railroads have undertaken to distribute and verify audits of communities which they serve. These groups, as well as Conway Publications will have copies of each community's Audit for confidential distribution to interested firms. The communities themselves, of course, will make copies available also.

If you are considering several possible communities and need preliminary information . . . ask for a Registered Community Audit. You may address inquiries directly to communities, area developers or Conway Publications.

***There is no charge for this service—either to interested firms or communities.***

# THE REGISTERED COMMUNITY AUDIT

***a free service to site-seeking industry***

**CONWAY PUBLICATIONS** **NORTH ATLANTA 19, GA.**

for floors. Est. date of Oper. 1960. 57-acre site. 80,000 sq. ft. Multi-million dollar. (C)

Cincinnati—Limbach Co. Heating, air conditioning and fabrication equipment and office space. Est. date of Oper. 1959. $1 million. (C)

Cleveland — Addressograph-Multigraph Corp. Chemical Processing. Under construction. $1,500,000.

Cleveland—Dow Jones & Co., Inc. Bernard Kilgore, Pres. Regional printing and distribution point for the *Wall St. Journal*. Plans announced. $1 million. (C)

Cleveland — International Salt Co., Inc. Service office building production headframe, conveyors and erection of a shipping and scale gallery. $1.3 million.

Cleveland—National Key Co. J. E. Cole, Pres. Makes blank keys and the machines for making duplicate keys. Est. date of Oper. 1959. $1 million.

Cleveland—United Moving and Storage, Inc. Warehouse and Office Building. Plans announced. $78,000.

Cleveland—Warner & Swasey Co. W. K. Bailey, Pres. Research center including library, experimental areas, a prototype shop and a high-bay test section with overhead cranes. Plans announced.

Leispic—Libby McNeill & Libby. Warehouse. Plans announced. $240,000.

Marion—Quaker Oats Co. Warehouse to serve as a distribution point. Plans announced. $750,000.

Portsmouth—Vulcan Corp. F. R. Edmisten, Mgr. Plastic heels. In Oper. $10,000.

Willoughby—Di-Noc Chemical Arts. Co. Photographic supplies. Plans announced. 57,000 sq. ft.

Willoughby—Service Stamping Inc. Thurston Reed, Sec.-Treas. Specializes in experimental and short-run custom metal stamping. Est. date of Oper. 1959. $150,000. (B)

### OKLAHOMA

Chickasha—Chickasha Mobile Homes. Stan Raczynski. House trailers. In Oper. (C)

Commerce—Glenn Berry Mfg., Inc. Dave Rose & F. E. Heydt. Jeans and work clothes. In Oper. $115,000. (C)

Durant — Texoma Furniture Co. Eddie Roberson & J. W. Pendleton. Bedroom suites. Est. date of Oper. July 1959. 18,000 sq. ft. (B)

Oklahoma City—The Wakefield Co. Lighting equipment. Est. date of Oper. July 1959. 6,000 sq. ft. (B)

Oklahoma City—Wiley-Bennett Co. Howard McCormick, V. P. Butter Processor. Under construction. (B)

### OREGON

Lyons — Freres Veneer Co. T. G. Freres Veneer. Est. date of Oper. Sept. 1, 1959. (B)

Portland — Medford Machinery Co., Inc. Fabrication dry kilns. In Operation.

Sweet Home—Lester Products Co. Mel Lester, Owner. Flakeboard panels up to 64 inches by 120 inches from cedar waste of shingle mills, plus some alder. Plans announced.

Tillamook—Diamond Lumber Co. Sawmill. John Swint, Pres. Lumber. In Oper. $1 million. (C)

### PENNSYLVANIA

Apollo—Nuclear Materials & Equip. Corp. Atomic Fuel Materials Laboratory. Plans announced. $315,000. (B)

East Berlin—Gettysburg Shoe Co. Bruno Roedl, Sec.-Treas. Ladies Playshoes. Plans announced. $180,000. (B)

Glassmere — Air Products Inc. Liquid Oxygen-nitrogen and argon. Plans announced. $6 million. (B)

Harrisburg—Stanley Home Products, Inc. Household products and grooming aids. Plans announced. $212,500.

Hazelton—New Moon Homes Inc. Mobile homes. Plans announced. $400,000.

Lancaster—Herrimidifier Co. Humidifiers. Plans announced. $65,600. (B)

Oakmont—Pennex Products Co. Inc. Pharmaceuticals. Plans announced. (B)

Philadelphia—Barrett Div. Allied Chemical Corp. Dry felt for asphalt roofing. Plans announced. (B)

Springfield Township—AMP Inc. Plastic molding operation. Plans announced. $150,000.

West Mifflin—General Electric Co. Repair of Apparatus type products. Plans announced. (C)

### PUERTO RICO

Arecibo—Wendy Textiles Mills Inc. Knitted tights (Leotard). Plans announced. (B)

Carolina—Caribe Can Co. Tin cans and lids, bottle caps. Plans announced. (B)

Catano—Rice Growers Assoc. of Cal. Rice milling. Plans announced. (B)

Cayey—Consolidated Cigar Corp. Cigars. Plans announced. 200,000 sq. ft. (E)

Guaynabo—Casa de las Modas. Bridal headpieces and veils. Plans announced. (B)

Ponce—Gentry Shoe Co., Inc. #2 Footwear. Plans announced. (B)


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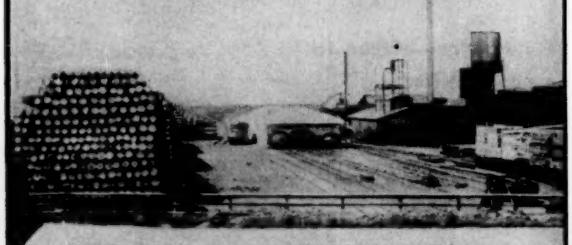
Piling, Poles, Lumber, Cross Arms, Cross Ties

Also Penta- and Salt-Treated Lumber

Decay and Termite Proof

*Docks for Ocean Vessels*



American Creosote Works, Inc.

New Orleans, La.

Plants at Pensacola, Fla.; Slidell, La., Winnfield, La.; Louisville, Miss.; Jackson, Tenn.



THE NATIONAL SITE SELECTION HANDBOOK

*1959-1960 edition*

Your 1959-1960 copy of the Site Handbook will be off the press in mid-October. You will find completely up-to-date listings of all organizations offering site location aid in the United States, Canada and Puerto Rico.

Every member of your firm concerned with planning new facilities should have a copy of this important reference book. Pre-publication price: $2 per copy. After publication: $3 per copy. Order extra copies today!

*to be published in*

OCTOBER

Saturce—Castings Inc. Rubber molding and die casting products. Plans announced. (B)

Saturce—Graphic Press Bindery Inc. Commercial printing. Plans announced. (B)

### RHODE ISLAND

Providence — Rivocor, Inc. Edw. Perry, Treas. of Coro, Inc. Anodized aluminum. Est. date of Oper. Nov. 1, 1959. $200,000. (C)

### SOUTH CAROLINA

Antreville—Sportswear, Inc. J. P. Anderson, Pres. Sportswear. Plans announced. 10,000 sq. ft. (B)

Florence — Aluminum Ladder Co. Inc. Darryl Cramer, Pres. Aluminum ladders for industrial use. In Oper. (B)

Spartanburg—Dritz & Sons. Sewing Novelties. Plans announced. $1 million. (C)

### SOUTH DAKOTA

No new plant reported.

### TENNESSEE

Athens—Kenwill Mfg. Co. of New York. Kenneth McConkey, Mgr. Children's Beach and bath robes. Est. date of Oper. July 1, 1959. (B)

Chattanooga—The Elastic Corp. H. Barlow, Plant Mgr. Hosiery and weaving industries. Plans announced. 6,000 sq. ft. $200,000. (B)

Cleveland—American Door Co. R. E. Foy, Sr., Pres. Plywood flush doors. In Oper. (B)

Counce—Kraft Paper Mill. Kraft pulp and box board. Est. date of Oper. Jan. 1, 1959. $50,000,000. (D)

Erwin—National Products Co. N. A. Eggert, Pres. Plastic-covered wood store displays. Plans announced. (B)

Memphis—Capri Cosmetics, Inc. Cosmetics. In Oper. 4,000 sq. ft.

### TEXAS

Brazosport—B. J. Levino Co. Magnesite (Periclase). Plans announced. $3 million.

El Paso—Border Rolling Mills, Inc. W. K. Ramsey, Pres. Reinforcing bars & shapes, nails, wire, steel products. Plans announced. $3 million. 250-acre site. (B)

Lubbock—Supreme Beef Co. Meat processing and packing. In Oper. Multi-million dollar.

San Antonio—Haddox Mfg. Co. H. J. Haddox, Pres. Compaction and road-rolling equipment. In Oper. (B)

San Antonio—Texas-American Asphalt Co. Asphalt refining. Est. date of Oper. Midsummer 1959. $3½ million.

### UTAH

Sulphurdale, Beaver County—Dixon-Western Chemicals, Inc. Sulphuric and hydrofluoric acids. Plans announced. 3½ million.

### VERMONT

No new plants reported.

### VIRGINIA

No new plants reported.

### WASHINGTON

Cashmere—Charbonneau Packing Co. Apple juice plant. Est. date of Oper. Fall 1959. 10-acre site. (B)

Ilwaco—Union Oil Co. of California. Warehouse, office building and 5 storage tanks. Under Construction. $100,000.

Kent—Seattle Acme Poultry Co. Poultry feeding and killing plant. Site purchased. 55-acre site.

Longview—Continental Grain Co. Grain storage. Shed on Port of Longview property. To build. 101,160 sq. ft.

Moxee-City—Western Sportswear, Inc. Sports jacket factory. In Oper. (B)

Oroville—Haskell & Burns. Apple cold storage warehouse. Plans announced. $125,000.

Packwood—Cowlitz Veneer. John Moore, Mgr. Veneer. Plans announced. (B)

Renton—Technical Research Co. Robt. Lent, Owner. Research and production of synthetics and plastics. Plans announced. $100,000.

Seattle—Joseph D. Greene. Sales office and warehouse. Plans announced. $125,000.

Spokane—Caterpillar Tractor Co. Parts depot. Plans announced. 80,000 sq. ft.

Walla Walla—Columbia Grain and Storage Co. 1 million bushel grain elevator on Walla Walla port property. $200,000.

Walla Walla—Tomlinson's Dairy Marts Bernard Tomlinson. Milk processing. Plans announced. $100,000.

Yakima—Pacific Fruit and Produce Co. Bill Buller, Dist. Mgr. Apple and pear cold storage. Est. date of Oper. Fall 1959. 45,000 sq. ft. (B)

### WEST VIRGINIA

Paden City—Corning Glass Works. In Oper. (B)

Richwood—Rubber Fabricators, Inc. Rubcals (Polyprophylene). Est. date of Oper.

Wayne—Montecatini Chemical Co. Chemicals (Polyprophylene) .Est. Date of Oper. Multi-million dollar. (C)

### WISCONSIN

Beloit—Beloit Iron Works. W. S. Wood, V. P. Welding and fabricating. Under Construction. $250,000. 300-acre site. 68,000 sq. ft.

### WYOMING

No new plants reported.

## CANADA

### ALBERTA

Calgary—Big Inch Pipe Construction Co. Ltd. Iron and steel pipe. Est. Date of Oper. Late 1959. $4 million. (C)

Edmonton—Page Hersey Tubes Ltd. Steel pipe. Est. date of Oper. 1960. $10 million. (C)

### MANITOBA

St. James—Brooks Equipment Ltd. W. G. Houston, Mgr. Distributors of construction equipment and heavy machines. Est. Date of Oper. Fall 1959. $275,000. (B)

St. James—National School Studios Ltd. E. Vardalos, Pres. Commercial Photography. Est. Date of Oper. Fall 1959. $225,000. (B)

Winnipeg—Massey-Ferguson Ltd. H. L. Williamson, Branch Mgr. Distributors of Farm machinery. Est. Date of Oper. October 1959. $350,000. (B)

### ONTARIO

Hamilton—Viscount Supply Co. Ltd. Aluminum sash, doors and screens. Est. date of Oper. July 1959. $250,000. (C)

### QUEBEC

Montreal—Quebec South Shore Steel Corp. Robt. LaFleur, Pres. Pig irons and semi-steel. Est. date of Oper. Early 1961. 200-acre site. $12 million. (B)

Montreal—Hy-Grade Containers, Ltd. J. T. Woolley, Gen. Mgr. Corrugated shipping containers. Est. date of Oper. July 1959. $400,000. (B)

## FOREIGN

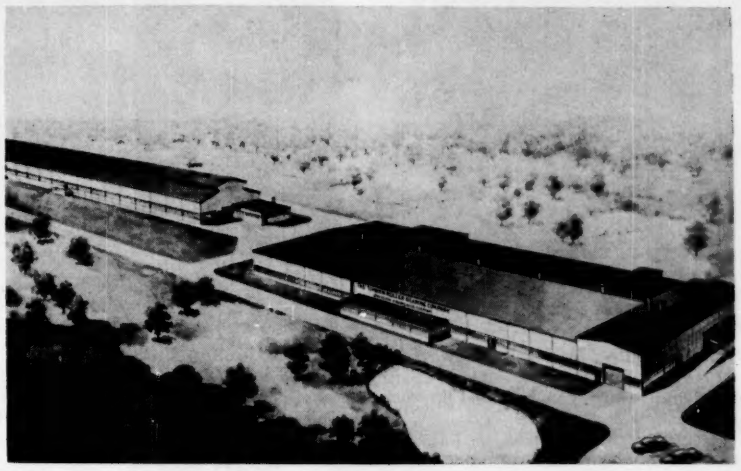
France—Goodyear Tire and Rubber Co. E. J. Thomas, Chrmn. Tires. Under Construction. $7 million.

India—Alkali and Chemicals Corp. Polyethelene. In Oper. $8.5 million.

Iran—Teheran. B. F. Goodrich. Tires and tubes. Plans announced, 130,000 sq. ft. 40-acre site.

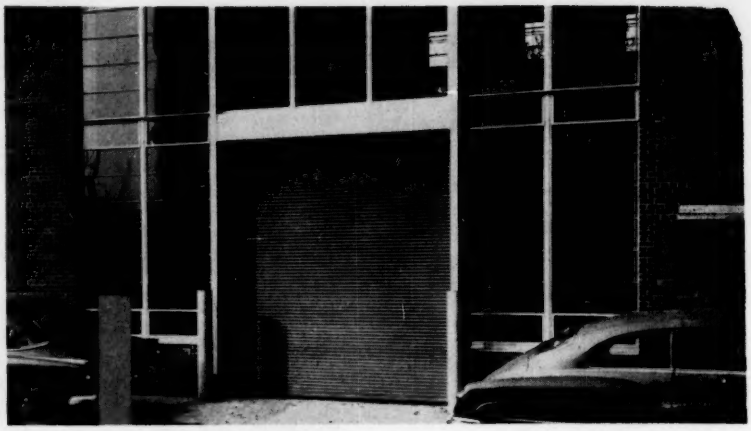
Northern Ireland—Imperial Chemical Industries. Polyester fiber. Est. date of Oper. 1964. 200-acre site. (E)

Northern Ireland—Coleraine, Chemstrand Ltd. Arvon L. Davies, Managing Dir. Chemical textile fiber. In Oper.

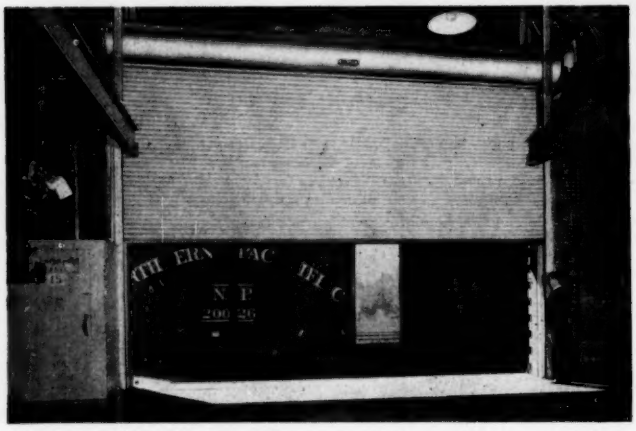


**This is an architect's drawing of Timken Roller Bearing Company's new $3.5 million bearing plant in Colmar, France. This is Timken's second major facility in France. The new plant will serve the European Common Market countries. The plant will employ about 200 people and will contain 60,000 square feet of floor space.**

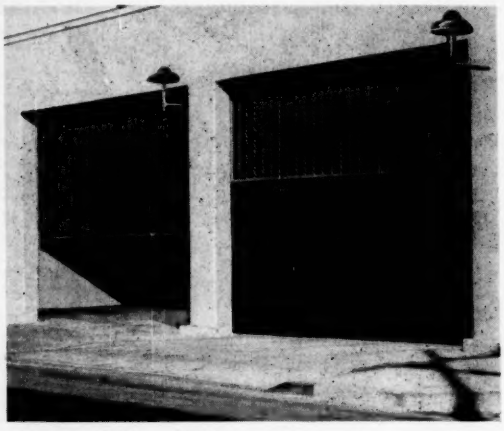
**Kinnear Rolling Doors,** by allowing for any required track extension, permit fullest use of hoist, crane, conveyor and lift-truck equipment.



**Kinnear Rolling Doors** eliminate all problems where wall areas beside or above doorways are designed to provide a view or transmit light. Kinnear Doors clear the entire door area, yet never interfere with any function or usability of surrounding floor, wall, or ceiling, either inside or outside the building.



**Kinnear Rolling Doors** deliver full efficiency whether mounted on interior or exterior walls. Mounted outside, they permit full clearance of *ceiling-high* openings . . . also cut costs of new buildings by reducing door headroom requirements to zero!*



**Kinnear Rolling Grilles** combine coiling upward action of Kinnear Rolling Doors with a rugged assembly of steel bars and links in attractive "openwork" design. They prevent trespassing without blocking light, air, or vision.

## *How you save space, speed traffic and cut upkeep with*

# KINNEAR ROLLING DOORS and Rolling Grilles

Kinnear *originated* the door with the curtain of interlocking steel slats. It has so many advantages that only a few highlights can be given here.

For example, note that *all* surrounding floor and wall space remains clear and usable at all times, whether the door is opened, closed, or in action.

The closed door guards the opening with a *continuous all-metal curtain*—extra protection against intruders, vandals, troublemakers as well as against wind, weather and fire.

Every Kinnear Door is *Registered.* Full details of all parts are kept permanently in Kinnear's fireproof vaults. With parts *always* replaceable, your doors will never be "orphans".

For maximum durability Kinnear's special hot-dip galvanizing coats the entire curtain with a full *1.25 ounces of pure zinc per square foot of metal* (ASTM standards). Kinnear adds a special Paint Bond that permits immediate, thorough coverage and lasting adhesion of field-applied paint.

Kinnear Rolling Doors are available for old or new buildings, with motor, manual or mechanical operation. Write for complete information.

✱ *Also available:* Interlocking-slat Kinnear Doors of modified design, for COUNTER SHUTTERS—widely used in cafeterias, serving counters, tool and parts cribs, etc.

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**1742 Yosemite Ave., San Francisco 24, Calif.**
*Offices and Agents in All Principal Cities*

*Saving Ways in Doorways*

**KINNEAR ROLLING DOORS**

DIRECTED BY
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Frank Gould . . . . . 1930-1943
William Beury . . . 1943-1955
McKinley Conway . . 1956

# MANUFACTURERS RECORD
## (IN REVIEW)

*"What Enriches Any Region Enriches The Nation"*

JULY 1885 (AS ABSTRACTED MORE THAN 70 YEARS LATER) BALTIMORE, MD.

### ST. LOUIS HOTEL

Business men going to the "Future Great" will find the St. James a good hotel and a centrally located one. It is located on the corner of 5th and Walnut streets, near the principal theatres, exchanges, railroad offices, and a few minutes walk will bring you into the wholesale district. It is patronized largely by business men visiting St. Louis and is known as the "business man's house of the city." Thos. G. Miller, the proprietor, is a genial host, a very clever gentleman, and is, deservedly, popular. The clerks are affable, polite and attentive to all the guests of the house. Mr. Sheringer, chief clerk, is a hotel man and his friends are legion. Ed. Adams, second clerk, also has hosts of friends. Business men contemplating a visit to St. Louis should have their baggage checked and their mail sent to the St. James, for they may find within its walls some of the very men they wish to see. Rates $2.00 and $2.50 per day, according to location of rooms.

### EXCELLENT BOILER CLEANER

The Carter Improved Boiler Cleaner, Filter and Purifier, handled by M. Power & Co., 60 S. Pennsylvania street, Indianapolis, Ind., possesses some points of superiority which should command the interest of all users of steam power. Its principal features are: The performance of its work without having inside the boiler any pipes or other contrivances, and the method of filtering the water through it upward, where it flows to seek its level, thus preventing the lime, etc. (separated in the boiler by evaporation,) from being carried with the circulation into the return pipes and back again into the boiler; the filtering material being kept clean for a year or more without changing, by opening the blow-off valve, which reverses the current and washes it out with boiler pressure. These are but a few of its many excellent points. Further information can be obtained by addressing M. Power & Co.

### INDUSTRIAL GROWTH

Sanford, Florida, appears to be on the eve of unusually active industrial movements. Ground has been purchased for the erection of a large machine shop and foundry, and negotiations are now pending for the establishment there of an extensive fibre factory, a paper mill, new lumber mill, etc. The town is improving rapidly, and the South Florida *Argus* is energetically helping on the good work.

### GOOD NEWS

The Boston *Journal* of July 17 published a letter from a special correspondent in Lawrence, giving the results of an investigation of the industrial situation in that city. The correspondent finds that the prospects in the manufacturing industries, especially in the cotton and woolen departments, are much brighter than they were three or six months ago. Then the mills were daily shutting down different departments wholly or in part, for indefinite periods, and hardly any of the mill men could see a prospect of better times. The storehouses were nearly all filled with unsold goods, and few of the corporations had orders of any considerable amount ahead. At the present time nearly all the mills are giving employment to a full quota of help, and are running all their machinery or preparing to do so.

The markets are somewhat freer, and there is a growing feeling among manufacturing people that the worst of the depression has been seen, and that this class of industries is slowly taking an upward turn. The Pacific Mills have recently started up their idle looms, of which there were about 800, and are employing a full complement of help in all departments. Three large rooms, which were formerly used in woolen work, have been rearranged and are now used for cotton. A new Corliss engine of 2,500 horse power has just arrived. In the "Big Mill" at the upper Pacific, where, until a few weeks ago, about one-third of the carding and spinning had been shut down, all the machinery is now running, and the usual large force of operatives is employed. The Atlantic Mills, which had been running at about two-thirds capacity, shut down July 3 for a fortnight. The Pemberton Mills, at which work was slack only a few weeks ago, are now driven with orders, and the entire machinery is in operation. It is said that the orders ahead are sufficient to keep the mills running at full time for six months.

The Everett Mills have been running with a reduced force on full time, but the idle machinery has recently been put in order, much new machinery has been introduced and the mills will soon start at full capacity. The Lawrence Duck Mills, as for the past three months, are running but five days a week and employing only half the regular force of operatives. The Arlington Mills are running on full time with their entire force, and orders are so heavy that in some departments night work is necessary. It is not yet known what disposition is to be made of the Washington Mills property, which recently changed hands.

### ENTERPRISE

A pretty good illustration of push and energy was given last week by the Louisville Asphalt Varnish Co., of Louisville, Ky. On July 8 the works of this company were burned, all the buildings and raw material and stock, except crude asphaltum, being destroyed. The fire was not out till 8 P.M., and yet the company broke ground at 1 P.M. July 9 for rebuilding, engaged a varnish maker from Newark, N. H., on the same day, also ordered necessary supplies, and on July 13 the company wrote us:

"The building has so far progressed as to undoubtedly admit of our making varnish on the 15th. After that date we will be prepared to fill orders for varnishes or paints promptly. Our new buildings will be of iron, and every precaution is being made against a recurrence of the disaster. Our facilities will be somewhat increased also."

**Chapman Valve Mfg. Co.**

—MANUFACTURERS OF—

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VALVES and GATES

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WITH OR WITHOUT INDEPENDENT VALVES.

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**Treasurer's Office,**

**Mason Building, 72 Kilby and 112 Milk Sts., Boston.**

—ALL WORK GUARANTEED.—

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*at* Lay's

# They're Cashing in on Their Chips

**A significant current trend in American industry is the expansion of regional companies, in the south and west, into national markets in the north and midwest. A prime example of this "reverse trend" in expansion is H. W. Lay & Co., manufacturers of specialty food products. Its president describes here a pattern of growth that is sure to become widespread in the years immediately ahead.**

**By Herman W. Lay**

*President, H. W. Lay & Co.*

DYNAMIC growth, in all phases of its operations, has been and will continue to be the goal at H. W. Lay & Company, Inc.

This is well reflected in the fact that since its beginning in 1932 the company has been continuously expanded to the point where today it operates plants in ten cities and has a total of 44 distribution centers in 17 states.

In this process of growth the organization has become one of the nation's largest producers of potato chips and snack foods. This has come about through a program of careful, long-range planning and market analyses, coupled with consistent, strong sales promotion and sustained quality control of all products.

Through the years the expansion program has included construction of new plants, subsequent additions to those plants, acquisition of existing manufacturing units, and complete replacement of existing units which have become inadequate.

An example of the latter is the company's latest expansion in the Washington, D. C., area. There a new $800,000 plant will replace an existing unit at Bethesda, Maryland, which is no longer adequate to supply the demands for the territory.

The new plant will be on a four-acre site in the new Eastgate Industrial Center in Prince Georges County, Maryland. The highly automated facility will have a designated production capacity of 160,000 pounds of finished potato chips a week and 130,000 pounds of "Fritos" corn chips a week.

Other new projects which got under way during 1958 were a new $400,000 manufacturing and distribution plant at Greensboro, North Carolina, and an expansion program involving $400,000 at the Jacksonville, Florida, plant.

Newest acquisition by the company was Halter's Pretzels, Inc., at Canton, Ohio, a 40-year-old organization whose products enjoy a nationally known reputation.

When we begin thinking about constructing a new plant we often employ a consulting firm to develop ideas and statistics, and to do process and material flow engineering. After much study and review by our own engineering and manufacturing departments, the final decision to go ahead on any new plant or expansion project can be intelligently made by management. The president personally heads up all committees or groups engaged in the development of construction projects.

In our forward planning insofar as sales are concerned we project from 36 to as many as 42 months ahead. Our thinking on production capacity and possible need for further expansion in the field is, of course, planned ahead along with sales.

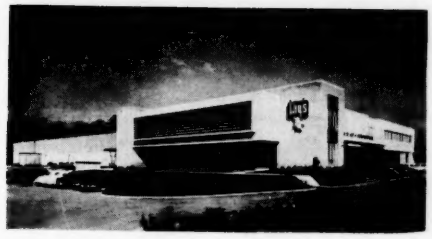
When planning for construction of a new plant we move carefully and begin looking for the actual site just as soon as the project has been approved as a long-range plan.

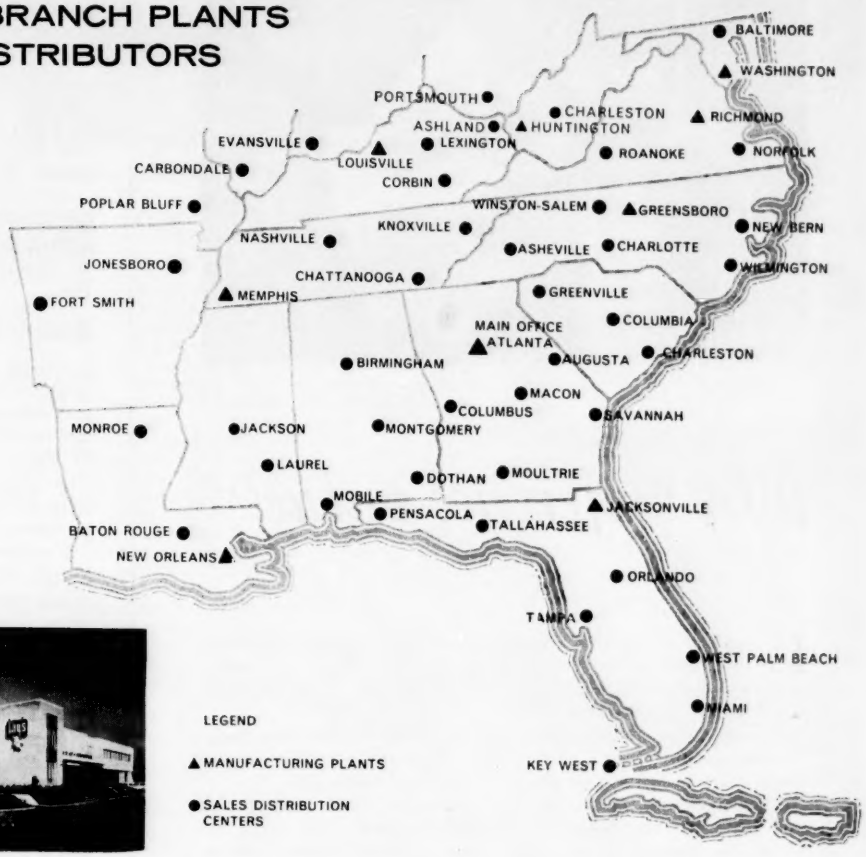
Among the many factors we consider in plant location, several are of prime importance. Since we are, by the nature of our products, a market-oriented organization, the place we choose for a plant must be in the center of a growing consumer area.

The actual site we choose must be served with adequate rail and highway transportation facilities. It must have full utilities service and complete waste disposal facilities, and pleasant living and working conditions for our employees.

The site also must be large enough

## LAY'S BRANCH PLANTS AND DISTRIBUTORS






to allow for expansion if necessary to meet future growth. In fact, the plants we build are so constructed that walls can easily be removed to allow for the erection of additional manufacturing or storage space.

Among top consideration in our site selection is attractiveness of surroundings. In addition to being completely functional, our plants must be pleasing to the eye in every way and beautifully landscaped.

The headquarters plant of H. W. Lay & Company in suburban Atlanta is an outstanding example of our concept in this connection. This facility, with 152,000 square feet of floor space, is in an attractive industrial park outside the congested area of the city. It is really the result of advanced food plant engineering. Evidence of the outstanding nature of this facility may be seen in the fact that it was selected by Factory Management and Maintenance magazine as one of the "Top Ten" plants constructed in the United States during 1956.

Other considerations in our selection of this particular site were (1) size, which will allow for doubling of plant area and which allowed initially for extensive landscaping, big parking area and a truck-servicing area; (2) location on a main highway, convenient for truck and trailer hauling of supplies and finished products; (3) adjacency to a main rail line where a spur track could be run right alongside the receiving docks; (4) availability of municipal water and sewage system; (5) plenty of gas and electricity and (6) fire protection.

Additional influencing factors were the location of the site near suburban residential sections, and in a new industrial development area, close to a labor supply, and where workers could use public transportation if they choose.

Since the plant faces on a main artery, there is enough traffic moving past to give pay-off public relations and promotional value to its eye-catching layout. We think this is a distinct advantage, particularly for the producer of popular food items.

When we decide, after extensive market studies, to move into an area where our products previously have not been sold, we may purchase an existing company; or if our research indicates, we will build our own new unit.

In meeting competition, which exists in this business to a strong degree wherever we operate, prime factors upon which we rely and which have enabled us to keep sales continuously increasing, are maintenance of high quality products, intelligent sales promotion and attractive, imaginative

*why "reference value?"*

IF you sell a service or a product to firms establishing new plants, your advertising program will fall short if it lacks *reference value*—the potential for presenting your message again and again, even years after your ad was inserted.

Reference value is vital in this field of selling because new plant location is inherently a slow process. Normally, it takes about three years from start of planning to actual operation.

To get maximum results, you want a medium that is kept on file and consulted throughout the planning period. You want to place your message right in that confidential file drawer where the planning data is assembled.

Are you now getting this type of reference value? Ask these questions about each medium you consider:

1. Is the publication easily filed? Will it fit into a standard file folder? Is it bulky?
2. Will the publication be filed in the right place? Does its title automatically suggest to the file clerk where it should go?
3. Will the publication be filed intact (with ads) or will editorial material be clipped, with ads going into a wastebasket?
4. What proportion of the content deals with industrial planning? (The more extraneous material, the lower the reference value.)

These are just a few of the factors which deserve serious consideration.

If you plan accordingly, your advertising messages will serve you not just today, but tomorrow and the day after.

**Industrial Development**

**and manufacturers record**

*first in Industrial Development since 1882*



packaging. We also do continuous research on products improvement and new product development.

This year, for example, our budget for applied research has been increased by one third, and it will be increased by one fourth for each of the next three years. We have a fully equipped research laboratory staffed by top scientific personnel. In addition, we employ nationally recognized consulting firms to supplement our own research activities.

### Quality Control

At the lab here, in quality control activities samples of each kind of raw materials are constantly being checked, and anything which doesn't come up to our high standards is immediately done away with. The same rigid controls are maintained on the finished products.

Products packaged under the Lay's brand include, in addition to potato chips, such items as the "Fritos" corn chips, Cornetts, fried bacon rinds, pretzels, popcorn, peanut butter and sweet cookie sandwiches, salted peanuts, other nut meats, candies, lunch cakes, and other snack foods.

These items are distributed daily from the various plants to more than 50,000 retail outlets. And, under our continuous expansion and sales promotion programs the number of these outlets is constantly being increased.

It is interesting to note that while food stores account for nearly half the sale of Lay's food products, the other half of our total number of customers get our products from drug stores, delicatessens, schools, industrial plants, vending machines, institutions and a variety of other types of outlets.

Our program of growth includes not only increases in production and sales but also the addition of food products to our line. This has been done and will continue to be done at any time our studies show the move to be feasible from the standpoints of production and marketing.

Thus, as I stressed earlier, our whole pattern of thinking in this entire operation is geared to growth and more growth, all carefully guided by the most comprehensive research and planning in all aspects of marketing, site selection, plant construction and equipment, and so on.

What I think of our outlook may best be put in these words spoken by Patrick Henry: "I know no way of judging the future but by the past."

# RECEASES

By Suzanne Johnson

## AREA REPORTS

**Manpower Resources in The Columbus, Georgia Area** by Jerry L. Lewis. Columbus Chamber of Commerce, 1344 Thirteenth Avenue, Columbus, Georgia. 26 pages.

**An Evaluation of the Economic Assets and Liabilities of the Columbus Area** by George I. Whitlatch and Robert E. Van Geuns. Columbus Chamber of Commerce, 1344 Thirteenth Avenue, Columbus, Georgia. 128 pages.

**Available Buildings in Missouri, May 1, 1959.** Missouri Division of Resources and Development, Jefferson Building, Jefferson City, Missouri. 11 pages.

**Lewis Terminals.** Brochure portraying its facilities and advantages of location. Lewis Terminal, Inc. 31 West 20th Street, Riviera Beach, Florida. 9 pages.

**Industrial Development Projects Announced in Pennsylvania, 1958.** A detailed listing of new and expanded industrial projects. Pennsylvania Department of Commerce, Bureau of Industrial Development, Harrisburg, Pennsylvania. 25 pages.

**Push To The Desert** by Howard F. Gregor. This article deals with the effects of irrigation on arid regions, California being the case in point. Science, May 15, 1959. Science, 1515 Massachusetts Avenue, N.W., Washington 5, D. C. 11 pages. 35 cents.

**Space—for Space Age Leaders.** Brochure setting forth the advantages of Fairfax County, Virginia. Fairfax County Economic and Industrial Development Committee, P. O. Box 95, Springfield, Virginia. 6 pages.

**Western Resources Handbook, Issue No. 26, April 1959.** Stanford Research Institute, Menlo Park, California. 35 pages.

## GENERAL REPORTS

**Economic Lessons of Postwar Recessions.** A report of the Committee on Economic Policy. Economic Research Department, Chamber of Commerce of the United States, Washington 6, D. C. 31 pages. 50 cents.

**Business Moves to the Industrial Parks** by Richard T. Murphy and Dr. William Lee Baldwin. Industry is moving to the suburbs. This article looks at some of the key questions posed by this rapid expansion. Harvard Business Review, May-June, 1959. Director of Public Relations, Arthur D. Little, Inc. 38 Acorn Park, Cambridge 40, Massachusetts. 10 pages.

**Yearbook of Railroad Information, 1959 Edition.** A statistical picture of the railroad industry. Eastern Railroad Presidents Conference, 143 Liberty Street, New York 6, New York. 102 pages.

**Value of Manufacturers' Inventories 1957, 1956, 1955, and 1954.** Bureau of the Census, Washington 25, D. C. 18 pages. 25 cents.

**Automation: Its Impact on Business and Labor** by John Diebold. National Planning Association, 1606 New Hampshire Avenue, N.W., Washington 9, D. C. 61 pages. $1.00.

**Telephone Planning for Modern Commercial Buildings.** This booklet is designed to help planners for tomorrow to become familiar with what is needed to provide for tomorrow's communication needs. American Telephone & Telegraph Company, New York, New York or your local Bell System. 20 pages.

**Banking Expansion—New Frontiers Ahead** by Robert H. Armstrong. In this bulletin Mr. Armstrong presents a highly informative discussion of the considerations and criteria entering into bank location. Urban Land Institute, 1200 18th Street, N.W., Washington, D. C. 22 pages $3.00.

**School Sites—Selection, Development, and Utilization** by James L. Taylor. This publication involves both long-range and functional planning. The purpose of the study is to assist school boards, planners, and designers in the selection and development of more adequate and functional school grounds. Superintendent of Documents, Government Printing Office, Washington 25, D. C. 75 cents.

**Real Estate Investment and How To Make Them** by William J. Casey. Every available signpost points to a big real estate boom ahead. This study deals with where and how to carve out a piece of this boom for yourself. Chapter headings include What To Look For In A Real Estate Investment, How To Make Tax Factors Work For You, Profits From Dealing in Residences, Industrial Development, Mortgages in Real Estate Investment. Institute for Business Planning, Inc., 2 West 13th Street, New York 11, New York. 210 pages. $12.50.

**Location of Manufacturing Plants by Industry, County, and Employment Size 1954.** Part 1. Food and Kindred Products; Tobacco Manufacturers; Part 2. Textile Mill Products; Apparel and Related Products; Leather and Leather Goods; Part 3. Lumber and Wood Products; Furniture and Fixtures; Part 4. Pulp, Paper and Products; Printing and Publishing; Part 5. Chemical and Products; ePtroleum and Coal Products; Rubber Products; Part 6. Stone, Clay, and Glass Products; Miscellaneous Manufacturers; Part 7. Primary Metal Industries; Fabricated Metal Products; Part 8. Machinery, Except Electrical; Electrical Machinery; Part 9. Transportaation Equipment; Instruments and Related Products. Superintendent of Documents, Government Printing Office, Washington 25, D. C. $6.40 per set.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## Industrial Districts

**The following planned industrial districts have sites available for immediate construction. Advantages offered by such districts are described in detail in the November-December 1954 issue, pages 6, 7, and 8.**

**Services offered are indicated by the following code: (A) Architect & Engineer; (C) Construction; (E) Electric Power; (G) Natural Gas; (F) Financing; (P) Paved Streets; (R) Rail Siding; (S) Sewers; (T) Telephone; (W) Water.**

### Iowa

**IOWA "MANUFACTURING MEADOWS"**—Clinton, Iowa (population 35,000), 138 miles west of Chicago on Mississippi River and Lincoln Highway (U. S. 30). 190 acres within city. Master plan by Skidmore, Owings & Merrill. Served by Chicago and North Western Railroad. Developed by Clinton Development Company, a civic-non-profit corporation. CHapel 2-4536. R. J. Stapleton, Managing Director. Services available: (a) (optional), (c), (e), (g), (f) (optional), (p), (r), (t), (w), restrictions.

### Missouri

**PAGE INDUSTRIAL CENTER**—St. Louis—planned industrial park, developers—Page Industrial Center, Inc., 7811 Carondelet, St. Louis 5, Mo. Edward L. Bakewell, Realtor, CEntral 1-5555, on Rock Island lines, 60 acres with all services available on property. Restrictions.

### Illinois

**ILLINOIS INDUSTRIAL VALLEY:** Cities of La Salle, Peru, Oglesby, Spring Valley, Ladd, DePue offer planned industrial sites. Excellent transportation via the Illinois River, 7 major railroads, numerous carriers, 2 U.S. Highways. Skilled workers. Power in abundance. Active ID organization to serve you. Robert Blomgren, Director, Box 446, La Salle, Illinois. Phone: CA 3-0227. Services: (a) optional, (c), (e), (f) optional, (g), (p), (r), (s), (t), (w).

### Georgia

**METROPOLITAN ATLANTA — Five Industrial Districts offering planned sites of varying location, size, price. Services available: (A) optional, (C), (E), (G), (F) optional, (P), (R), (S), (T), (W). In your Southeastern plant or warehouse survey contact: F. Wm. Broome, Industrial Manager, DeKalb County C of C, 250 E. Ponce de Leon Ave., Decatur, Ga. (Atlanta phone, DRake 8-3691).**

## Available Sites

**SUBURBAN ATLANTA—Sites of 3, 5, 10, 25, 50, 100 or more acres. All utilities and rail service in DeKalb County—Georgia's newest industrial area. 70% urban with more than 200 industries in industrial districts and individual tracts. For your new Southeastern plant or warehouse location—inquire and visit through F. Wm. Broome, Industrial Manager, DeKalb County C of C, 250 E. Ponce de Leon Ave., Decatur, Ga. (Atlanta phone, DRake 8-3691).**

**Near the Crowd—But Not in It**
Middlesex County, N. J. 20 Miles from New York—50 Miles from Philadelphia. On U. S. No. 1, N. J. Turnpike and Mainline P.R.R. Write for Booklet.
**Middlesex County Industrial Department**
**County Record Bldg., New Brunswick, N. J.**

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**50,000 sq. ft. BLDG. NOW UNDER CONSTRUCTION**, can be yours for $5.70 per sq. ft. 100% FINANCING on Lease-Purchase plan. 100-acre Progress Park. Newly developed. All utilities. Write or phone. Chamber of Progress, Shenandoah, Penna. Phone 2-0544.

**MARION, ARKANSAS**—One story steel and concrete block plant, 5,100 sq. ft.—3 years old—bus bar wiring—concrete floor—air conditioned offices—low insurance—loading facilities—parking—good labor market—excellent shipping—siding available. ARTHUR M. FRIEDMAN, 1250-52 NORTH DAMEN AVE., CHICAGO 22, ILL., PHONE: BRUNSWICK 8-5330.

## For Sale

**Used machinery for all types of industries.**

We also rep. variety new machinery mfrs. Variety complete plants and mfg. businesses (removal-operation) we're selling for owners. Kindly mail us specific inquiries from time to time. Variety Equipment Co., 710—7th St., Beaver Falls, Pa. (SALES AGENTS).

## Special Services

**SELLING SOUTHERN MARKET?** If you're marketing a business product in the South, you need the confidential bi-weekly SOUTHERN LETTER to keep posted on new sales opportunities. Write for sample—no obligation. Box SL, Conway Publications, North Atlanta 19, Ga.

## Business Opportunities

**AFFILIATION SOUGHT**—Firm geared for national sales work wishes to team up with small manufacturer who has a product which can be sold widely to major industrial plants. Prefer product wherein purchase decision is made by top management. Contact ID Box 7-2.

**INVESTMENT OPPORTUNITY**—Substantial individual launching new development venture needs $25,000 to $100,000 in additional financing. Project is national in scope, professional in character, and has excellent long-term possibilities. This is an investment which would appreciate greatly under threat of another World War. Negotiations will be strictly confidential. Contact ID Box 7-3.

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Does your company want to enhance its prestige in the business world? Do your executives deserve wider recognition? Would you like to present a more impressive picture of your company's history and growth? Do you need an easily-readable current description of the facilities and services you offer? Would you like to have such a presentation prepared by an outside group with objective viewpoint and wide experience in business reporting? Interested? Then contact the publishers of INDUSTRIAL DEVELOPMENT and MANUFACTURERS RECORD to discover how our professional staff can serve you.

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**CONWAY PUBLICATIONS, INC.**
**295 Madison Avenue, New York**
**or**
**109 Market Place, Baltimore**
**or**
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**IMPORTANT**—when replying to classified advertisements with no address given, write ID Box ....., Conway Publications, Inc., North Atlanta 19, Ga.

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BOX NUMBERS: Publisher will assign box and relay correspondence on a confidential basis if desired.
PROOFS: Not furnished on classified ads.

## This Mailing List Can Serve You!

The banks of address plate trays holding the names of INDUSTRIAL DEVELOPMENT readers represents years of compilation effort. Today, this list includes 16,000 key executives, including more than 8,000 company presidents in the East and Midwest. Write for details of mail service plan whereby you may use these plates to address your direct mail promotion material.

**CIRCULATION DEPARTMENT**
**Conway Publications, Inc., North Atlanta 19, Ga.**

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SPECIALISTS IN PLANT LOCATION
INDUSTRIAL PARKS

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*Consultant-Devisors . . . of specialized commercial and industrial procedures*
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*Consulting Engineer*
General Structures
Plant Layout
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**Columbus, Ohio**
*The Growth City of the Midwest*
ROBERT G. DENMEAD
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Sales • Leases • Appraisals
57 East Gay St. CA 4-4249

**FEIST & FEIST**
**Real Estate & Insurance**
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Irving Feist
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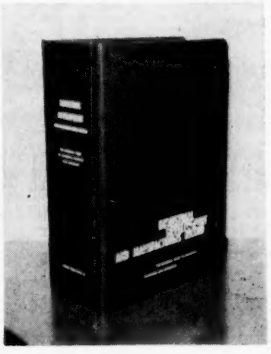
*To executives of manufacturing concerns engaged in site selection only. All others twelve dollars.

**Conway Publications**
North Atlanta 19, Georgia



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Planning the expansion of industrial facilities is essentially a long-term process. That's why you'll want to save each issue of INDUSTRIAL DEVELOPMENT, to consult when you need detailed information on a specific phase of your site survey.

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## EXPANSION PLANNING INDEX

**For prompt assistance with your planning problems, consult these alert advertisers who are represented in this issue of ID-MR:**

**PLANT LOCATION SERVICES:**

**Alabama Power Company,** C. H. Kilian, Advertising Manager, 600 N. 18th St., Birmingham, Ala. (Ad page 14).

**American and Foreign Power Company, Inc.,** S. A. LaFaso, Advertising Manager, 2 Rector St., New York 5, N. Y. (Ad page 12).

**Anniston Chamber of Commerce,** Leonard A. Gilbert, Manager, Radio Bldg., Anniston, Ala. (Ad page 5).

**Arkansas Industrial Development Commission,** William P. Rock, Executive Director, State Capitol, Little Rock, Ark. (Ad page 4th cover).

**Baltimore and Ohio Railroad,** Gayle W. Arnold, Manager, Industrial Development, Room 1104, B & O Bldg., Baltimore 1, Md. (Ad page 37).

**Frank G. Binswanger, Inc.,** Frank G. Binswanger, 1420 Walnut St., Philadelphia, Pa. (Ad page 4).

**Greater Burlington Industrial Corporation,** Charles P. Townsend, Executive Director, 191 College St., Burlington, Vt. (Ad page 4).

**Chesapeake and Ohio Railway,** Wayne C. Fletcher, Director, Industrial Development, 1103 C & O Bldg., Huntington, W. Va. (Ad page 29).

**Columbia Gas System Service Corporation,** W. M. Kimball, Director of Information, 120 E. 41st St., New York 17, N. Y. (Ad page 48).

**First National Bank of Cincinnati,** V. E. Curran, Director of Advertising, Fourth and Walnut Sts., Cincinnati, Ohio (Ad page 25).

**Florence Chamber of Commerce,** Harry W. Hiott, Jr., Executive Vice President, City Hall Annex, Florence, S. C. (Ad page 5).

**Grand Central Industrial Centre,** W. M. Clough, Vice President, P. O. Box 3157, Grand Central Station, Glendale, Calif. (Ad page 2).

**Huntington Chamber of Commerce,** Don Baker, Executive Vice President, Box 1509, Huntington, W. Va. (Ad page 44).

**State of Indiana, Department of Commerce & Public Relations,** C. F. Parker, Director, 333 State House, Indianapolis, Ind. (Ad page 33).

**Kentucky Department of Economic Development, Bill Knight,** Director, Public Relations and Publicity, New Capitol Annex, Frankfort, Ky. (Ad page 23).

**The Kinnear Manufacturing Company,** Wallace Pearson, Vice President, 1191 Fields Ave., Columbus 15, Ohio. (Ad page 56).

**Knoxville Chamber of Commerce,** Charles F. Herd, Industrial Director, Hotel Andrew Johnson, Knoxville 2, Tenn. (Ad page 4).

**Louisville and Nashville Railroad,** R. E. Bisha, General Industrial Agent, 908 W. Broadway, Louisville 1, Ky. (Ad page 47).

**Madison Frontliners,** Howard L. Binkley, Secretary, P. O. Box 270, Madison, Ind. (Ad page 40).

**Michigan Consolidated Gas Company,** R. L. Gage, Manager, Industrial Development Division, 415 Clifford St., Detroit, Mich. (Ad page 15).

**Monongahela Power Company,** Donald E. Hollen, Director, Industrial Development, Fairmont, W. Va. (Ad page 40).

**Monroe Area Industrial Development Corporation,** Walter Koch, Executive Vice President, Virginia Hotel Bldg., Monroe, La. (Ad page 51).

**New York Central System,** W. J. Marshall, Industrial Department, 466 Lexington Ave., New York, N. Y. (Ad page 2nd cover).

**Norfolk and Western Railway,** Jack J. Adams, Industrial Agent, 106 N. Jefferson St., Roanoke, Va. (Ad page 43).

**State of North Carolina, Department of Conservation and Development,** William P. Saunders, Director, Raleigh, N. C. (Ad page 1).

**State of Ohio, Economic Development and Publicity Division,** John W. Bush, Director of Commerce, Room 401, Ohio Department's Bldg., Columbus 15, Ohio. (Ad page 20).

**Orange County Industrial Developers, Inc.,** Jess N. Stafford, 1503 S. Los Angeles St., Anaheim, Calif. (Ad page 5).

**Paducah Association of Commerce,** Russ Chittenden, Manager, Paducah, Ky. (Ad page 31).

**Commonwealth of Pennsylvania,** J. Eric Jones, Director, Bureau of Industrial Development, Capitol Bldg., Harrisburg, Pa. (Ad page 41).

**St. Petersburg Chamber of Commerce,** Jack Bryan, Director of Industrial Development, 4th St. & 3rd Ave., St. Petersburg, Fla. (Ad page 3rd cover).

**Southern Indiana Gas and Electric Company,** L. A. Fleming, Director of Public Relations, 20-24 N. W. 4th St., Evansville, Ind. (Ad page 45).

**Southwestern Electric Service Company,** E. W. LeNeveu, Mercantile Bank Bldg., Dallas, Tex. (Ad page 5).

**Texas Gas Transmission Corporation,** George W. Anders, Advertising Manager, Box 577, Owensboro, Kentucky. (Ad page 30).

**Texas Power and Light Company,** E. L. McElroy, Jr., Director, Area Development, P. O. Box 6331, Dallas, Tex. (Ad page 3).

**West Virginia Industrial and Publicity Commission,** Don Crislip, Director, Capitol Bldg., Room 4, Charleston 5, W. Va. (Ad page 35).

**Western Kentucky Gas Company,** Jack Tankersly, President, Owensboro, Ky. (Ad page 38).

**Western Pacific Railroad,** F. B. Stratton, Director, Industrial Development, 526 Mission St., San Francisco, Calif. (Ad page 16).

**Windsor Properties, Inc.,** W. C. Windsor, Jr., President, 211 Mercantile Commerce Bldg., Dallas, Texas. (Ad page 15).

**PLANT CONSTRUCTION AND INDUSTRIAL SERVICES:**

**American Creosote Works, Inc.,** S. B. Braselman, Jr., Vice President, 1305 Dublin St., New Orleans, La. (Ad page 54).

**Diamond Manufacturing Company,** P. O. Box 42, Wyoming-Wilkes Barre Area, Pa. (Ad page 13).

**OTHER SERVICES:**

**Industrial Sound Films, Inc.,** Guy H. Tucker, Director of Special Services, Conway Building, N. Atlanta 19, Ga. (Ad page 61).

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## The Colonel Says

The U. S. Army Corps of Engineers handles much more weighty problems than one might realize. Their notice to prospective bidders, Invitation Number ENG-41-243-59-69 is concerned with the specifications for replacement of clothes lines. No automatic dryers!

### THE JET AGE

We received a long distance call in Atlanta the other afternoon and upon being informed that the party being called had just left for Pittsburgh, the operator queried "Will he be back this afternoon?"

### LOSE SOMETHING?

A housewife called in a plumber and while he went to work fixing the kitchen sink, her cat watched with deep interest.

"That's quite a cat you have," the plumber remarked. "Seems to know just what is going on."

"Yes," agreed the woman. "It's a Siamese, you know."

"A Siamese, eh," said the plumber. Then, glancing around the kitchen, he asked, "What happened to the other one?"

### AMEN!

An important industrialist was reading a prepared address to a meeting of his peers. He was doing fine, and becoming more self-confident with each sentence.

"The average businessman is tired," he said with emphasis. "He has worked long and diligently in difficult times and he is weary. He is physically and mentally exhausted. But he isn't nearly as tired as the girls who have to type this claptrap."

There came a long and tense pause, while a delighted audience began to yelp its appreciation. "Why-hy," the indignant orator began to sputter, "I never . . ."

Then, as the light broke, he hastily went on with his speech, keeping a careful eye on the text ahead.

* * *

Another one of those stories from behind the Iron Curtain is that Russia's most successful inventor is Comrade Reguspatoff (Reg. U. S. Pat. Off.).

* * *

A good listener is not only popular, but after a while he knows something.

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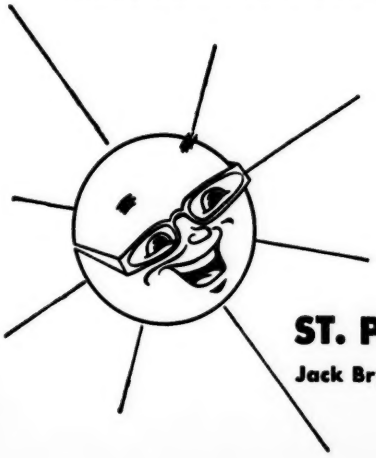

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